A Work Project, presented as part of the requirements for the Award of a Master's degree in finance from the Nova School of Business and Economics.

50% OFF: WORKING CAPITAL IN THE BRANDED APPAREL INDUSTRY – THE CASE OF ADIDAS

PHILIPP GALL

Work project carried out under the supervision of:

Irem Demirci

04-01-2021

Abstract
This case deals with the theoretical and practical implications of working capital using the example of Adidas AG, a German company operating in the branded apparel industry. Case users should get an idea of working capital's influencing factors and better understand its real economic implications. Working capital management is crucial for companies in the industry due to high seasonality, but the comparatively low fixed asset base also increases its importance for capital efficiency. Therefore, in this case, students will conduct a comprehensive impact analysis of working capital in which they will also examine the financing structure, profitability and the effects on the company value.

Keywords
Working Capital Management, Capital Efficiency, Factoring, Covid-19

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

List of contents

List of abbreviations

al.	alii
AG	Aktiengesellschaft (Corporation)
bn	billion
bps	basis points
Capex	Capital expenditures
CCC	Cash Conversion Cycle
CEO	Chief Executive Officer
CFO	Chief Financial Officer
COGS	Cost of goods sold
CSR	Corporate Social Responsibility
c.	circa
c.p.	ceteris paribus
DCF	Discounted cash flow
DIO	Days Inventories Outstanding
DPO	Days Payable Outstanding
DRO	Days Receivable Outstanding
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes Depreciation & Amortization
ESG	Environment, Social, Governance
EUR	Euro
FCF	Free cash flow
FCFE	Free cash flow to equity
FCFF	Free cash flow to the firm
FIFA	Fédération Internationale de Football Association
FTE	Flow to equity
FY	Fiscal year
IAS	International Accounting Standard(s)
IFRS	International Financial Reporting Standard(s)
KfW	Kreditanstalt für Wiederaufbau
KPI	Key Performance Indicator
LTM	Last twelve months
m	million
NOPAT	Net operating profit after taxes
Opex	Operating expenses
p./pp.	page(s)
Q	Quarter
QoQ	Quarter on quarter
ROC	Return on capital
ROCE	Return on capital employed
SME	Small and medium-sized enterprises
USD	U.S. Dollar
U.S.	United States
Vs.	versus
WACC	Weighted average cost of capital
YoY	Year on year

1 The student case

1.1 Adidas AG

On April 14, 2020, Adidas' CFO Harm Ohlmeyer must have followed the press with particular interest. His company had just announced the approval of a €3.0bn revolving bridge loan by the federal government, granted through the state-backed Kreditanstalt für Wiederaufbau (KfW) and a bank consortium. The group had published this news two weeks after Adidas had apologized for their announcement to defer April rent payments for its stores, for which the company was broadly criticized. At this point, Adidas felt compelled to take this step because of the novel Coronavirus to secure long-term liquidity. Adidas, of all things, a company that had celebrated a run of success in previous years. How often Ohlmeyer could read the headlines with pleasure. Rising sales and profitability, a leading market position in the important Chinese market, a skyrocketing share price complemented with dividends, share buybacks, and an excellent financing situation. All of a sudden, the company faced unprecedented challenges.

Adidas AG is a leading global company in the branded apparel industry. As presented by the group on its website, in 2019, it employed more than 59,000 people from more than 100 nations worldwide. The production equaled more than 1.1bn sports and lifestyle products with contracted manufacturing partners, while revenue reached a record high of €23.6bn. The corporation has two main brands: Adidas and Reebok. With its leading brand position and conservative financial policy, the group accelerated its growth and profitability in recent years. In 2019, the products sold consisted of 448m pairs of footwear, 528m pieces of apparel (e.g. t-shirts) and 127m pieces of hardware (e.g. footballs). Besides, the company has declared efforts to support ESG and improve

its environmental footprint. With c. 200m shares outstanding, the company had a market capitalization of c. €58bn end of 2019.

1.2 The Golden Years

On October 1, 2016, Kasper Rorstedt was appointed CEO of Adidas AG. His predecessor Herbert Hainer had announced record figures for the current year at the time of his departure: with projected sales growth of 19% and a 39% increase in net profit, the company expected to gain in scale and profitability in FY 2016. Nevertheless, analysts agreed, several challenges were remaining. In the U.S. market, the company lost touch with its big rival Nike, and low profitability at the Reebok brand acquired in 2006 depressed the mood. Above all, Adidas was still behind Nike in size, profitability and brand recognition. Completing the challenge were allegations of corruption at FIFA, an essential partner for Adidas. It was a general and ongoing transformation in the textile industry, including CSR and ESG factors that would influence the agenda, the corporate appearance and especially the Adidas brand in the coming years. Rorstedt, who previously was CEO of Germany based consumer goods company Henkel, was known for his rigorous leadership and the ability to align a company to a purpose. He was entitled to Adidas' 2015-20 strategy "creating the new" (Exhibit 1) and should not fail to deliver.

Roughly three years later, in FY 2019, Adidas could report a new record again in both revenues of c. €23.6bn and net earnings of c. €2.0bn (Exhibit 2). Compared to the FY 2016 figures, this marks a CAGR of 7.0% and 24.7%, respectively. The higher growth in earnings suggests an increase in profitability. Indeed, the operating margin improved

from 7.7% to 11.3%. Under Rorstedt's leadership, the company also extended its market share in mainland China, the industry's most important growth market. Exhibit 3 shows the market shares as of 2019 in China for the sportswear industry. In 2019 alone, Adidas managed to increase its revenue in China by c. 15%. In the U.S., Adidas could manage to gain track likewise. From 2016-2019, the company increased its revenue by c. €2.5bn and grew 7% in 2019 alone. Exhibit 4 depicts the Adidas revenue split by region for FY18 and FY19. Another vital growth driver for the company was the e-commerce business. In 2019, the company guided the channel to provide c. €4bn of revenues, after it had increased by 34% in FY19 and almost doubled compared to 2015. The most important e-commerce market for Adidas is China. For 2020, the company guided to grow 8% in total net sales and increase the operating margin once again by 20 to 50 bps. From an operational point, it was fair to say that Adidas performed well in its core markets and was able to extend its market position and profitability.[1]

In terms of financing, the company was well-positioned. The indebtedness or gearing is expressed as the ratio of the net of financial borrowings and cash & cash equivalents and short term assets compared with the shareholders' equity (Exhibit 5).[2] From 2017 to 2019, these metrics were negative, which means the company had no financial debt on a net basis. The company's financial strength was also visible in the return on capital, which was well above Adidas' cost of capital between 2016 and 2019 (Exhibit 6).[3] As

[1] On a currency neutral basis, even the European market grew at c. 3%

[2] A company's indebtedness can be measured with several ratios (e.g. Net Debt / EBITDA). Furthermore, the definition of financial debt is broadly different. Since the inception of IFRS 16, lease liabilities are usually included and also unfunded pension liabilities (IAS 19) might apply. However, Adidas only incorporates the financial debt into its gearing ratio in the reporting.

[3] The return on capital (ROC) measures the capital efficiency of a company based on the capital that was invested to finance the operations. As the metrics does not differentiate between equity and debt

a growing company with positive operating free cash flow, a favourable financial position and a capital-efficient balance sheet, Adidas even returned excess capital to its shareholders. As a part of "creating the new" Adidas focused on returning cash to shareholders. From 2016 to 2019, the company returned c. €4.2bn through dividends and share buybacks. How did the stock market react? From Rorstedts' appointment in October 2016 until the end of 2019, the stock had increased by c. 87.6%. to c. €290 per share (also see the share price development in Exhibit 7). The performance from 2016-2019 was even more impressive: the share price increased from c. €88 by 230%, which is a multiple of 3.3x. Overall, the future was bright at Adidas' headquarters in Herzogenaurach.

1.3 The disruption

2020 marks the final year of Adidas strategy, in which the company would have proudly presented its success and how it created significant value for shareholders. However, it turned out that 2020 would instead become a year that the group would not forget. In early Q1, the virus first led to severe restrictions in China and started to impact European and U.S. markets likewise. The closure of stores materialized with a decrease of 58% in Chinese sales. Simultaneously, the e-commerce channel increased by 35%, a development that showed how essential online sales would evolve in the time of the crisis. The good vibes were gone, and with a stack up in inventories, the company faced increased working capital problems.[4] Adidas did not only have to close a majority of its stores but also had to take back orders from partners. How would the company

financing, the NOPAT is considered instead which does not account for any interest tax shields for the company.

[4] Adidas includes Accounts Receivable, Inventories and Accounts Payables in the (operating) working capital

manage this risk? How would the spring apparel still be attractive to customers in later seasons? The cash captured within these items and the expected cash burn (negative operating cash flow of €825m in Q120) led to severe liquidity concerns. Adidas was immediately entitled to secure its existence. One of Adidas' broadly discussed measures was the intention to defer rent payments for the stores closed. #boycottadidas was a hashtag that led to the following attacks in social media. It was the first time that Rorstedt made decisions that influenced the brands' reputation. A company that made profits and paid billions to shareholders was now considered egoistic. Eventually, the company gave up and promised to pay the rents as contracted. However, this unusual approach showed the pressure the management must have felt. The KfW syndicated bridge loan that the company received helped them to increase the liquidity.[5] As of Q120, Adidas presented liquidity of c. €4.3bn (Q1 investor presentation). Other measures were the cancellation of the share buybacks and dividends, which was also a condition for the bridge loan. Additionally, the management accepted a reduction of 50% of its compensation. The inventory should be sold down with the collaboration of outlets, partners and lower orders going forward. Additionally, Adidas envisaged tight cash management, which mainly focused on receivables and payables.

But it should be worse times to come for Rorstedt and Ohlmeyer. During Q2, European governments imposed lockdowns, and the store closure in the U.S. reached its greatest extent. In April, more than 70% of the global stores were closed (see Exhibit 8). The Q2 sales decline of 35% YoY led to a negative operating result of €334m. The

[5] The bridge loan consisted of €2.4bn from the KfW and €600m of a bank consortium.

inventories further increased to €5.2bn, and working capital concerns continued to spread. At this time, Adidas estimated the impact of inventory discounts at c. 260 bps. On the contrary, through cash management measures and lower shipments, accounts receivable decreased by 31% YoY and payables increased by c. 23%. These effects helped to partially mitigate the inventory increase, which was 49% on a currency-neutral basis. With the liquidity secured, the company even focused on the financing, discussing to tap the capital markets with the issuance of a bond to pay back the loan. For this purpose, the company started a rating process with the rating agencies Standard and Poor's and Moody's. Adidas was one of the last company's in the German stock index DAX30 to obtain a rating.

Interestingly, the company later said that it could not issue debt without the rating during the peak of market turbulence in March. Once again this shows the uncertainty that prevailed not only within the markets in general but especially in the retail-dependent apparel and textile industry: "Adidas is now in the best possible position to access the capital markets at any time and to further optimize its capital structure and financing costs", Ohlmeyer said in August after obtaining two investment-grade ratings. This was needed. Looking at the indebtedness as of Q2, Adidas' gearing was at 12.7% and therefore reversed from the negative figures in previous years.

Where would this lead the company? Already in Q2, there were signs of improving conditions. In China, the company already had returned to a YoY growth path expected for Q3. The e-commerce business, which was only at c. 17% of Adidas' revenues in FY19 helped to mitigate some of the store closures. The channel's sales went up by c.

93% YoY in Q2. With European and U.S. markets and stores to reopen end of Q2, it was expected that the business conditions would gradually return to normality within Q3 and after that.

This was evident in the financials as well. In Q3, Adidas managed to return to winning ways. As of September 2020, c. 96% of Adidas' global stores were open. The inventory was reduced from the previous quarter's peak by c. €500m and e-commerce sales went up 51% YoY in Q3. The operating margin returned to a double-digit figure at c. 13%. However, the company's indebtedness still increased, with gearing at 16.7% and invested capital at €14,013m. The problem for the company still was the working capital. Even though the inventories decreased to c. €4.7bn, the accounts receivable and payable normalized or even weakened YoY. With payables falling by 34% QoQ and receivables increasing by 39%, Adidas had the highest working capital in Q3, at €5.5bn (see Exhibit 9). This once again led to the question of how to manage the working capital problems efficiently. How could the company face the challenges? What would happen to the already decreased gross margin if inventories would continue to sell at discounts? How would receivables and payables be effectively managed, and what would be the cost of doing so? What was the actual impact of working capital on cash flow, profitability and the valuation of Adidas?

1.4 Questions for Students

1) How do you assess Adidas' working capital management compared to its peers? Is it possible to find similar developments and patterns in the

industry, and what might be reasons? Can you find worrying developments for Adidas?

2) How did Covid-19 affect Adidas' working capital? What might be the reason for your findings? Please analyze the impact on the cash flow that the higher inventories at their peak had, compared to the relative inventory level in the previous year.
3) How was the profitability of Adidas affected? Please show the impact on ROCE in the 2020 quarters, using the reported and YoY working capital KPIs calculated previously. What was the impact of a weaker gross margin on ROCE in Q220?
4) Show the impact of different working capital scenarios on Adidas' share price using a DCF valuation as of December 31, 2020. You can define scenarios based on the metrics calculated in the second exercise. Your forecast period might be until 2030, using a WACC of 7.5%.
5) Factoring is a commonly known method to improve trade credit. What are the mechanics of factoring? What are the costs and benefits that factoring can have? How does it impact the valuation and returns of a company?

2 Teaching Note

2.1 Introduction

2.1.1 Overview

In recent years, the importance of adequate working capital management has increasingly been discussed in business research and teaching. The focus is on differentiating between different industries and business models and profitability and liquidity factors. This case study aims to provide the main theoretical and applied implications of working capital. Furthermore, in the course of an industry focus, an assessment of working capital management will be made, and an evaluation of possible future mitigation.

First, working capital needs to be defined. In a broad definition, it represents the net of current assets and current liabilities. Working capital facilitates the analysis of how a company's operations are financed and how much cash is captured in day-to-day operations. While there are many constituents of current assets and liabilities, the most common figures subsumed under working capital are Accounts Receivable, Inventories and Accounts Payable. To make working capital of companies comparable, there are relative ratios and key performance indicators (KPI) that can be analyzed. The most common way to do so is to calculate the respective days that a company needs to collect its receivables, sell or process inventories or defer its payables payment. Combining these metrics will lead to the cash conversion cycle (CCC) that expresses how much time (usually in days) a company needs from investing in inventories to collecting cash from sale in its operations.

How has the focus in corporate finance on working capital management evolved? In the world of Modigliani & Miller (1958) with perfect capital markets, financing should not have an impact on a firm's value. It is solely defined by an investment policy that focuses on projects that provide a positive net present value. This also implies that the CCC's magnitude has no consequence, as external funding needs can be satisfied at no inferior cost and the substitution of internal and external funds is indifferent (Baños-Caballero et al., 2010). However, there might be an optimal CCC that balances cost and benefits of working capital financing in reality. Smith (1973) was the first to focus on the specific value of a company. Working capital is therefore considered in terms of its impact on the firm value. The main factors are current assets, current liabilities and cash flow. Regardless of the calculations, which are undisputed in the literature, appropriate and value-creating working capital management is exposed to different viewpoints.

When investigating Belgian firms, Deloof (2003) found that increased working capital enables companies to leverage their sales and grant better discounts to customers, increasing the firm value. However, he also finds that the CCC is negatively correlated to a firms' profitability. This is aligned with the view of Kim et al. (1990), who state that working capital management affects performance significantly. Their other main finding is that companies with a higher value also have higher investments in working capital than firms with relatively lower levels. On the contrary, there are views suggesting that companies with high working capital might also be exposed to higher financing requirements, increasing the probability of bankruptcy or increasing cost of capital (Kieschnick et al., 2011). Ding et al. (2013), who investigated Chinese companies, display another view. The authors find that firms with high working capital

generally have high sensitivities of investment in working capital to cash flow and low sensitivities of investment in fixed capital to cash flow. They concluded that active management of working capital might help firms mitigate the effects of financing constraints on fixed investment. This might also cause the perception that companies with better profits might not necessarily be motivated to manage working capital. However, the authors find a negative correlation between the amount of working capital and profitability, which is decreasing with increasing profitability.

This short introduction shows the complexity of working capital management. There are both positive and negative effects of high and low working capital that require careful consideration and evaluation for each company. Determinants of working capital are industry-specific, depend on the company size (start-up vs SME vs large cap), and its financing structure. Covid-19 has shifted the focus of CFOs to manage liquidity, which makes working capital management inevitable (see also McKinsey, 2020). The case study intends to illustrate some of these aspects with the example of a particular working capital-intensive industry and stimulate the students' own analyses and ideas.

2.1.2 The Reasoning

Adidas AG is one of the world's leading companies in the branded apparel industry. Since CEO Kasper Rorsted took over in October 2016, the firm steadily extended its market position and improved significantly in revenue and profitability. However, the unprecedented and unexpected global outbreak of Covid-19 presented the group and the whole industry with new challenges. Inventories started to stack up, and retail partners delayed paying bills and suppliers pushed back on trade credit terms. The

importance of working capital management became evident and the company addressed cash flow and liquidity concerns with broadly criticized measures like rent cancellation and credit facilities from the German government.

2.1.3 Learning objectives

This case allows students to deal with working capital management and quantify its impact on a company's cash flow, returns, and valuation by analyzing the changes in the principal working capital KPIs. Based on their findings, students will assess the impact on the return on capital employed and valuation implications using a DCF-analysis. The case comprises:

a. A peer comparison for the industry and key findings on cyclicality and possible explanations
b. The evolution of Adidas' working capital KPIs (DIO, DRO, DPO and CCC) over the recent quarters and quantification of impact on free cash flow
c. Looking at the working capital effect on profitability based on a pre-and-post Covid level
d. Evaluating the impact on valuation based on a DCF analysis with a focus on changes in working capital
e. Think about methods to address working capital issues and the advantages it can provide to a company

2.2 Suggestions for Student Analysis

2.2.1 Peer Comparison

Whenever analyzing a company's performance, be it valuation, working capital or other financial metrics, it is crucial to consider its industry peers to draw conclusions.

Companies operating in the branded apparel industry usually have a comparatively low fixed asset requirement, making working capital an essential part of actively managing capital efficiency. The industry implies various companies, where some even sell luxurious fashion (e.g. Ralph Lauren, Hugo Boss). For a peer comparison related to working capital, it is imperative to have similar reporting periods. As there is a high cyclicality, it is given that one cannot compare a working capital figure of a company that reports end of December, with one that reports end of May.[6] The peer figures that students are presented with are therefore not fiscal, but actual quarters. As Nike as a core peer of Adidas reports its FY figures end of May, there are no publicly available statements for the quarters ending in March, June, September and December. Therefore, the company is not reasonably comparable in terms of working capital, even though it faces the same challenges.

The figures provided are in the respective currency (EUR, USD).[7] A first glance on the reported figures shows the seasonality that is evident throughout all players in the industry. Exhibit 10 indicates that the figures seem to increase for accounts receivable in the quarters ending in March and September, while they are low in December and June. This seems reasonable, as the main seasons in fashion are certainly the summer and winter period so that receivables increase from these sales in the respective quarters after that. This is supported by the sales figures per quarter, which are relatively higher in the periods from January to March and June to September. It is essential to keep in

[6] A company that reports end of May will also have differing ends of quarters, which makes it unreliable when comparing working capital.

7 For a comparison on an absolute basis to detect cyclicality, the currency is not relevant. On a relative basis, it is even preferable to have the reporting currency, as a currency translation would have small effects on the comparability given the currency translation reporting standards of IAS 21 and IFRS 3.

mind that these companies sell their products in own flagship stores and have wholesale contracts with physical and online retailers. When looking at inventories, there is less cyclicality (Exhibit 11). However, the quarters ending in June and September tend to have higher inventory stacked up than the ones ending in March and December. This is in line with stated cyclicality and shows the importance of the fall/winter season, with inventories stacking up before that period. Under Armour state that they "generally expect inventories […] to be higher in the second and third quarters in preparation for the fall selling season" (Annual Report, 2019, p. 4). For Adidas, even Q4 has high inventories. This is because the company has a higher proportion of China sales, which traditionally has a high demand due to the Chinese New Year celebrations in Q1. Another interesting statement at this point is that Adidas' inventory increased in 2019. Such an effect might be growth driven but has to be further examined in the case. Accounts payable (Exhibit 12) are peaking likewise in December and June, which is also caused by higher inventories related to the supply before the seasons in Q1 and especially Q3. Interestingly, Adidas' payables increased in 2019, which might again be a growth-related increase, but could also indicate working capital management problems.

As already pointed out, considering the absolute figures might give some preliminary ideas about specific developments, yet does not provide a comparable basis. Therefore, it is suitable to consider the working capital KPIs. To consider accurate figures that account for relatively short periods and respective developments, it is favourable to calculate the KPI's per quarter based on an LTM basis:

$$DRO = \frac{Accounts\ Receivable}{LTM\ Sales} * 365 \qquad (1)$$

$$DIO = \frac{Inventories}{LTM\ COGS} * 365 \qquad (2)$$

$$DPO = \frac{Accounts\ Payable}{LTM\ COGS} * 365 \qquad (3)$$

$$CCC = DRO + DPO - DPO \qquad (4)$$

This is a relatively static approach, as the formulas only consider the working capital at the respective period. There is also the possibility to take LTM averages of the figures. However, as the analysis is already based on quarters and focuses on changes and developments, the static approach is preferable. The resulting calculations are presented in Exhibit 13, based on the company information shown in Exhibit 14. In terms of CCC, Adidas seems to compare well with its peers. Looking at the December 2019 peer average of 114 days, Adidas comes in well below, with 85 days. When looking at Adidas' core peers, the company is weaker than Puma (75 days) and in line with Under Armour (85 days). On the other hand, the constituents of the CCC show interesting developments. In terms of DRO, it seems that Adidas could improve its performance over recent years. In 2018, Adidas generally took longer to collect cash from clients than the peer average, while at the end of 2019, the company is more in line with the peer average (41 for Adidas vs 37 for peers)

When looking at inventories, the DIO might be below the average, which is influenced by a high figure from Hugo Boss. In December 2019, Adidas had DIO of 131 (vs Puma at 144 and Under Armour at 116). Even more important is the trend here. While the peers could improve their DIO throughout 2019 or keep it constant, Adidas' KPI has gradually weakened. Consequently, the effect of increasing inventories that we saw in the absolute figures is also showing up on a relative basis. Therefore, it might be

interesting to think about improvements for the company or at least quantify the impact this weakening effect has on cash flow and liquidity.

Finally, the payables analysis in terms of DPO shows that Adidas performs well compared with peers. While Adidas has a DPO of 87, the peer average is lower, at 71. Comparing Adidas with its core peers Puma (109) and Under Armour (81), the company might still have upside to reach the German rival. Generally, Adidas DPO development is in line with the industry figures, as the days outstanding have gradually increased over the recent years. This underlines the increased purchase power that big players have and the increasingly favourable conditions of financing through suppliers.

Based on this initial analysis, there are two main findings. Adidas Working Capital management seems to be in line with the industry peers and generally developed positively. On the other hand, there might be an upcoming problem with inventory efficiency. Even though the company has grown significantly over the recent years, inventories stacked up relatively strong. The next step might be to look at Adidas' developments on a stand-alone basis and quantify the impacts of increased inventories. Besides, the reported figures in 2020 will be of interest when further assessing Adidas' working capital management.

2.2.2 Working Capital KPIs past Covid

Students are requested to focus on the developments and financial impact as of Q2 2020 with inventories at the high and reason verbally about the reversing trend in Q3. Looking at the balance sheet items in Q220, inventories went up by c. 46% YoY,

payables increased by c. 22% and receivables decreased by 33%. This gives the first indication of a high deviation, which has to be analyzed concerning the P&L figures to draw further conclusions. With the help of Adidas' financial statements provided quarterly, students will be able to show the evolutions of DIO, DRO, DPO and CCC. For a proper analysis, they should rebase the P&L items sales and COGS to an LTM basis. The outcome should be presented in a table and a graph, complemented by discussing key findings. Assuming a year to have 365 days to consider, the formulas for calculating the KPI's as shown in the formulas (1) to (4) in the previous section.

Exhibits 15 and 16 show the evolution of Adidas' working capital every quarter since Q1 2019. The main observation is that the cash conversion cycle has significantly increased in the 2020 quarters and peaked at around 154 days in Q3 2020. That figure is considerably above the previous five quarters average of 102, which already includes an increase in the course of Covid-19.

It is evident that this effect was mainly caused by the rising days of inventory outstanding. A QoQ comparison for Q3 shows that working capital increased from €4.5bn to €5.5bn when looking at the absolute figures. This increase is solely driven by the higher inventories, as the changes in receivables and payables offset each other. The ramp-up of inventories is also visible in the KPI. In Q120, DIO increased to 144, whereas in Q220 it stepped-up to the maximum of even 186 days. Compared to the 123 DIO as of Q219, the company had an annualized negative free cash flow impact of €1,773.8m through the increase in inventories as of Q220. This cash flow corresponds to c. 110% of the company's FY 2019 Net Income. The formula to calculate the cash

flow impact of rising DIO based on current DIO and previous years' quarter is as follows:

$$FCF_{DIO} = \left(DIO_{Q2,20} - DIO_{Q2,19}\right) * Q2\ 20\ LTM\ COGS/365 \qquad (5)$$

$$1{,}773.8 = (186 - 123) * 10{,}212\ /365$$

The reasoning behind the increase in inventories is evident: Exhibit 8 depicts Adidas stores' closing during the outbreak of Covid-19. At peak, more than 70% of the global Adidas stores had closed. That led to significant stack-ups in inventories, which were a significant concern throughout the industry. The financial impact of €1.77bn calculated above illustrates the issue very well. However, as of Q320, Adidas reported a decline of DIO to 169, indicating the firm's operational improvements and again showing the cyclicality of inventories being still in place. After reopening of the global end-markets and stores at c. 95% level, the company could progress on selling off its inventory. At which cost this happened, shall be examined in the second part of the case study. In addition to the physical retail, Adidas could also rely on their online distribution channels, which ramped up significantly in revenue, as explained in the case materials. The crisis showed the importance of diversified and integrated sales channels and will be crucial to recovering swiftly during 2020 and 2021.

Meanwhile, Adidas' DRO decreased to 33 days in Q2. Discussing this item is essential to understand the drawbacks that working capital metrics can have. When analyzing working capital, it is a common opinion that the lower DRO, the better it is for the company and cash flow. That is per se correct, yet students should be encouraged to understand parts of the calculations. When looking at decreasing DRO, the first suggestion would undoubtedly be that the company managed to collect its receivables

and has an excellent billing team. While this might be true, it is counter-intuitive during Covid-19, where clients are keen on delaying their payments as fast as possible. What caused the decrease of the DRO is that the number of shipments went down significantly. Receivables in Q20 had decreased by €911m YoY, which is c. 33% of the Q219 figure and a much higher impact than the corresponding decrease in LTM Sales. Students can conclude that it has not only been the cash management that led to decreasing DRO, but also the lower shipments. That was even acknowledged by the company, which emphasized the trend in its Q2 2020 shareholder presentation. The theory can be approved by looking at Q3 2020 DRO, which came in at 47 days and therefore in line with the pre-crisis levels. When business activities and shipments normalized, and the company was back on track, also DRO came in at historically usual, even slightly higher levels.

When looking at trade financing, DPO increased during the first half of 2020 to 92 days, which shows the company significantly tightened its cash management. However, the Q3 figure with DPO at 62 days shows a contrary development, as it is the lowest value across the sample. This again can lead to fast, but possibly wrong conclusions. At first sight, it might appear that the company suddenly has unprofessional cash management. Q320 payables came in at c. €1.7bn, significantly lower than the respective Q319 figure at €2.4bn. Again, the explanation is not the first intuition when discussing working capital, but only that due to the pandemic, the company had lower orders in Q3 and therefore fewer bills to pay. Likewise, the cyclicality of payables is also a critical component to remind. As already mentioned in the first section, payables tend to be

lower in the first and third quarter of a year, as suppliers are generally paid after the products are sold in the summer and winter quarters (Q1 and Q4).

To conclude this discussion, a working capital analysis should always go beyond the sheer numbers but always incorporate thinking about the actual reasons that could cause the developments. Especially in disruptive times, there can be very trivial explanations for working capital fluctuations. Therefore, it is reasonable to look at long-term trends to draw conclusions and take actions that have a sustainable and practical impact. For Adidas, it seems the fluctuations in the trade payables and receivables might be justified, and to some extent, the inventories. However, in the future, management will emphasize the development to reverse the trend of FY 2019.

2.2.3 The effect of working capital on ROCE

From an operational perspective, the apparel industry is mainly dependent on fashion trends and seasonality. That alone comprises a negative impact of high inventory, taking aside the implications of corporate finance. To reduce stacked inventories, the company has to grant discounts, negatively affecting the gross margin. In Q2 2020, Adidas already quantified the negative impact of inventory allowances on gross margin at c. 260 bps vs Q2 2019. However, from a corporate finance standpoint, it is also worth analyzing the impact that higher working capital has on the return on capital employed (ROCE). ROCE is an important figure to measure capital efficiency in a company. As the name suggests, it depicts how well a company generates returns based on the capital it employs and can be seen as an add-on to the return on assets as it considers the financing.

The quality of earnings of a company has various input factors. For the analysis, this case isolates the impacts of working capital on capital employed assuming all other financial statements' metrics to be unchanged (*ceteris paribus*). Students should calculate the ROCE for the first three quarters of 2020 based on the reported capital employed. Then they might compare it with a capital employed that contains working capital based on the KPIs from the previous exercise for the respective YoY quarters. The ROCE per quarter on an annualized basis is calculated as

$$ROCE_{Qt} = \frac{LTM\ EBIT_t}{Capital\ Employed_{Qt}} \qquad (6),$$

where the capital employed is defined as

$$Capital\ employed_t = Total\ Assets_t - Short\ term\ liabilities_t \qquad (7)$$

Alternatively, the calculation of the ROCE can account for the average capital employed throughout the analyzed period. However, for this analysis, the impact of a change in working capital figures might be better visible with this static view. The calculation of the reported capital employed can be conducted using the total assets subtracted by the total current liabilities, as shown in formula (7).

Before looking at the impact of Covid on Capital employed, there should be a first positioning compared to the peers. Exhibit 17 shows the LTM ROCE as of December 2019. Adidas' ROCE of 22% compares well with the peers, who report around the mid-teens except Under Armour (at c. 6.9%). This indicates an effective utilization of the funds in Adidas operations. However, their main rival Nike reported a 30.1% ROCE for FY 2019 (ending May 31, 2019) and 29.3% for the LTM as of February 2020. Here is still upside for Adidas in terms of profitability, and it is a declared target of the group to improve the performance further.

After Covid-19, this target might still be in place. However, an evaluation of the recent quarters shows that the first step should be to return to the previous ROCE of 22%: For Q1 2020, Adidas reports a capital employed of €11,686m (€20,781m – €9,095m). The LTM EBIT amounts to €1,490m. Consequently, the ROCE for Q1 2020 amounts to 12.75%:

$$12.8\% = \frac{1{,}490}{(20{,}781 - 9{,}095)}$$

Applying formulas (7) and (6) similarly with the Q2 and Q3 figures results at a 4.60% ROCE for Q2 and a 6.14% ROCE for Q3 2020. Exhibit 18 further depicts the outcome of the calculations. In Q2, capital employed decreased to €11,163m, which means the drop in ROCE was driven by a decline in LTM EBIT, that was lower at €513m, (-€977m vs Q1). In Q3, capital employed peaked at €12,539m. Consequently, an improved earnings profile drove the increase of the ROCE vs Q2: due to a recovering business in Q3, the LTM EBIT came in at €770m (+€257m vs Q2).

To compare the unadjusted figures with different working capital figures, students should calculate the total assets and current liabilities that include working capital based on the YoY quarters' DIO, DRO and DPO. The adjusted inventories, receivables and payables in Q1 are calculated as:

$$Adjusted\ Inventories_{Q1,20} = \frac{DIO_{Q1,19} * LTM\ COGS_{Q1,20}}{365} \quad (8)$$

$$Adjusted\ Receivables_{Q1,20} = \frac{DRO_{Q1,19} * LTM\ Sales_{Q1,20}}{365} \quad (9)$$

$$Adjusted\ Payables_{Q1,20} = \frac{DPO_{Q1,19} * LTM\ COGS_{Q1,20}}{365} \quad (10)$$

Applying the figures results in the following working capital items

$$Inventories: €3{,}425m = \frac{113 * €11{,}023m}{365}$$

$$Receivables: €3{,}079m = \frac{50 * €22{,}510m}{365}$$

$$Payables: €2{,}107m = \frac{70 * €11{,}023m}{365}$$

For the quarters Q2 and Q3, the formulas (8) – (10) are used with the respective inputs. The working capital figures have to be included in the capital employed. As shown in Exhibit 18, as a consequence of the working capital adjustment, capital employed decreased in all three quarters: Q1 is down to €11,449m (vs €11,686m), Q2 is at €10,610m (vs €11,163m) and Q3 is even decreasing to € 11,036m vs €12,359m. That is not surprising, as the adjustment assumes the working capital on the previous year's normal level. Especially in Q3, the high difference of €1,503m is evidentially caused by the CCC's significant increase, as already derived in the first exercise. While this analysis compares the capital employed with the same LTM EBIT, it is only consequent that the ROCE is improving when adjusting working capital. In Q1, the difference is only 26 bps, at 13.01% ROCE. Q2 comes in at 4.84% (+24bps), and Q3 improves to 6.98% (+84bps). Looking at the relative change in ROCE, with weaker WC also the delta increases. While in Q1, the relative difference was 2.03%, in Q3 it was already at 11.99%. This deviation would be even higher if the respective EBIT were on a higher level as well, as the ratio of EBIT to capital employed would be more sensitive to the denominator. Consequently, working capital management is an essential aspect of corporate finance and managerial tasks. In a highly competitive industry, stakeholders specifically analyze capital efficiency and incorporate them into their projections.

Besides this aspect, it is also worth looking at the 260 bps impact of inventory discounts on gross margin. The Q219 gross margin was at 53.46%. In Q220, it decreased to 51.02%. Adding back the 260bps would lead to a gross margin of 53.62%. Multiplying this change with the Q2 2020 revenue of €3,579m leads to a positive effect of c. €93m on gross profit, and c.p. to €93m higher EBIT. Adding this figure to the Q2 2020 LTM EBIT results in an adjusted figure of €606m (vs. €513m, which would improve the reported ROCE to 5.43% (vs 4.6%).

2.2.4 Impact on valuation

One aspect of corporate finance is valuation. A company's value is derived by the cash flows that it generates for its stakeholders through its operations or its assets. A broadly used method to value a company is the discounted cash flow method (DCF). The enterprise value of a company under this approach is the sum of its future expected cash flows, discounted with the respective cost of capital:

$$Enterprise\ Value = \sum_{t=0}^{n} \frac{E(CF_t)}{(1+k_t)^t} \qquad (11)$$

There are two main ways to set up a DCF. The first one would be to directly derive the Equity value by discounting the cash flows to Equity (FTE method) or calculating the Enterprise value by using the unlevered free cash flows to the firm (FCFF method). Both cash flows comprise the crucial part of working capital. Students should analyze the impact of working capital on cash flows and the company value. It is common to calculate company cash flows with the indirect method, which adjusts the firm's Net Income for non-profit- but cash-related items. As working capital captures cash in the balance sheet that is neutral from a P&L perspective, it is necessary to adjust any changes through the cash flow statement.

For the analysis of the working capital changes on the valuation, students should use the FCFF method. Consequently, students will need to forecast the unlevered free cash flows representing the money going to all the business funders, (e.g. equity and debt investors). The case asks for an evaluation of the company's fair share price per December 31, 2020. Based on the FY 2018 and FY 2019 and the quarterly statements until Q320, they might forecast the cash flows until 2030. The focus of this valuation shall be the impact that the weakening working capital has on a company's value. Students should compare the shares' value using the working capital metrics as of Q3 2020 and compare them with the company value incorporating the previous year's regular figures.

The first step of the analysis should be the forecast of the P&L (Exhibit 19). Assuming the trend to continue for Q4 2020, it is reasonable to assume a sales decline of c. 16% in 2020e. Adidas gives no specific guidance on their top-line for the years after that, but it should come in at levels between 2018 and 2019 in 2021e. Until 2025e, the company should reach sales of c. €30.5bn with a gross margin of c. 52%. Looking at opex, the other operating expenses have been historically at c. 42% of Sales, which is considered in the forecast as well. Only in 2020e, due to lower sales and a fixed cost component, the ratio increases to c. 47%.

For the FCFF forecasts, students can start with the EBIT and subtract the adjusted taxes calculated based on the tax rate of 30%. The resulting NOPAT should be adjusted for D&A, Capex and change in working capital items. The case does not require

incorporating changes in provisions or other cash flow related items, as the analysis focuses on the working capital. Consequently, The formula to calculate the FCFF is:

$$FCFF_t = EBIT_t\,(1 - t_c) + D\&A_t - CAPEX_t + Working\ Capital_{t-1} - Working\ Capital_t \quad (12)$$

Capex can be forecasted as a percentage of sales or D&A but should align with the D&A in the long term. The purpose of this analysis is to quantify the impact of different working capital developments based on DIO, DRO and DPO. The three scenarios might be the analysis of 1) the WC based on 2019 average KPIs, 2) 2020 average KPIs and the 3) Q3 KPIs only. This results in different inventories, receivables and inventories for every period. Consequently, the FCFF will differ from case to case, with other figures assumed to be unchanged (Exhibits 20-22).

The FCFF shall be discounted with a WACC of 7.5%, as mentioned in the case materials. Students shall focus on the valuation impact of working capital. Therefore a detailed derivation of the cost of equity and cost of debt is redundant for this DCF. The terminal value might be calculated with the Gordon-growth formula and a terminal growth rate of 2.5%, which implies the intrinsic growth and price inflation. As per December 31, 2020, the resulting Enterprise value should be adjusted for Net Debt (incl. lease liabilities reported "on balance" since 2019 due to IFRS 16), pension provisions, and non-controlling interests to calculate the equity value. Afterwards, the equity value is divided by the outstanding shares to calculate the share price. For scenario 1) the share price is at € 208.94, for scenario 2) at €202.89 and for 3) €196.72. The difference of the average 2019 KPI share price and the Q320 KPI affected share price amounts to 12.21€. In terms of enterprise value, the difference is c. €2.44bn

(€46,503bn – €44,054bn). The calculations for the respective scenarios are shown in the Exhibits 23 – 25.

Consequently, working capital management is an important driver to create shareholder value. The sensitivity table shows that the captured cash within the operations has an even higher value with decreasing cost of capital, and at a WACC of 7.0%, the difference in the share price of the best and downside working capital assumption is already at €13.5.

This c.p. analysis does not account for the effect that working capital, especially high inventories, has on the P&L. As previously mentioned, there was a negative effect on the gross margin driven by inventory discounts of 260 bps. Naturally, the forecast assumed that the 2021e gross margin would recover to a standard basis of c. 52%. If instead, the gross margin is considered to be weaker in the long term, there is a significant implication on the share price. The normal case assumed the gross margin to improve to 53%, with a first step up to 2019 levels of 52% from 2021-25e. If this development in the long term is now assumed to improve only to 52%, the equivalent share price based on 2019 average working capital is at €187.91 (vs €208.94) Exhibits 26 – 28 show the resulting P&L, FCFF and share price. Indeed, this is an aggressive assumption, as a standard inventory level should materialize within only a few periods and gross margin then recovers likewise. Yet, as an illustration of how significant the impact on value is, this approach is sufficient. This analysis has shown the impact that working capital, which is only a small fragment of a valuation, has on a company's value.

High working capital will likewise affect the financing cost of a company. As capital employed increased as seen in the second part of this case, there will be an increased demand for capital to fund the operations. A higher debt level typically increases the cost of debt. To actively manage inventory but especially accounts receivable and payable, there are instruments brought into practice that finance managers can use. The effects that such measures can have will be analyzed in the next part of the case.

2.2.5 The possibility of mitigation with factoring

In addition to the purely valuation-relevant aspects, a company's working capital management is also associated with the cash and liquidity level, as mentioned in the introduction. In the peer comparison, it has already been noticed that the branded apparel industry has a very cyclical working capital, which is mainly due to the strongly seasonally driven business. However, during the crisis, Adidas' sharply increased capital requirements became apparent, which the company served primarily through financial liabilities. In practice, however, some procedures can be beneficial for short-term liquidity management. One of the most common forms of short-term working capital financing is factoring. This section will give a short overview of the standard factoring models and explain how it could help companies in the industry.

Definition and cost of factoring

In factoring, a company sells its receivables from the supply of goods and services to its clients to a factoring institution on an ongoing basis. By doing so, the company receives immediate liquidity directly from its accounts receivable. This is virtually as

if all the debtors were to pay immediately (e.g. DRO being equal to 0 for the receivables sold). The default protection regularly offered by factoring institutions, the so-called *del credere* protection, and continuously updated information about the respective customers' creditworthiness guarantee secure sales channels for companies using factoring. Generally, there are three types of factoring: open, semi-open, and silent factoring.

Furthermore, there is a distinction between real and unreal factoring. In open factoring (also known as notification factoring), the debtor is informed that the receivable is transferred to the factoring company. To meet the obligation, the debtor can only pay the factoring company. In semi-open factoring, the debtor can either pay the company or the factoring company to meet the obligation. With silent factoring, however, the debtor is not notified about the factoring of the receivable. Therefore, he directly pays the company. Concerning further distinction, real factoring implies the dunning management ("full service"), financing and especially the del credere protection through the factoring company. Unreal factoring, however, usually does not imply this protection. This means that in case of default of the debtor, the company still bears the payment risk.

Before addressing the topic concerning Adidas and the industry, it might also be appropriate to mention the cost of factoring. The cost is mainly split into two components: First, there is the fee for granting the del credere protection, e.g. taking the default risk. This fee generally depends on the debtors' creditworthiness and includes a service fee for a full-service factoring. It is usually around 2-3% of the

receivable amount but can also differ significantly. The additional financing of the receivables will be charged with interest. It is expensed for the period from the transfer of the receivable and the collection of cash by the factoring company. The total cost of factoring may vary with the client's creditworthiness and the company, the dependence of the company from its main clients, and the general interest rate level at the time.

The intuition for Adidas and the industry

The main reason for a company to engage in factoring is improving liquidity and the protection against bad receivables. Nevertheless, factoring offers a variety of additional advantages: 1) Lower funding-requirements, which reduces the cost of capital; 2) the equity and equity ratio improve, which can also positively affect the rating;[8] 3) improved liquidity even secured with fast-growing revenues, which can also enhance supplier discounts as payments can be conducted earlier. Coming back to the first section of the case, the industry's high cyclicality has already been discussed. Especially the receivables have a high variation throughout the cycle, with peaks after the two main seasons. Exhibit 9 depicts the development of capital employed for Adidas. Using factoring will not significantly change the capital employed, as the result would just be an asset swap of cash and receivables. Yet, if the cash receipts are used to pay off debt, there will be an impact, illustrated later in the case. This will result in improved cash flows and capital structure – if factoring is done at favourable conditions. In addition, there will be a positive impact on the capital employed. However, companies primarily engage in factoring to improve liquidity. Under normal conditions, a company should

[8] Some rating agencies adjust the indebtedness of a company for factoring for its debt-like characteristics (e.g. interest payment, unreal factoring without del-credere guarantee)

not solely rely on such financing, but especially the Covid crisis has revealed how quick companies can face imminent liquidity problems. As mentioned in the case study, Adidas faced the issue with a credit facility from the German government of €3bn. Even though the company did not draw the whole facility (only €500m as of Adidas Press release, November 10, 2020), the quarterly statements in FY 2020 show a significant increase of short-term borrowings – and likewise the indebtedness of the company. End of FY 2019, the short term borrowings were at €43m and ramped up to €1,726m in Q320. Indeed, the increase is primarily driven by a weaker earnings and cash flow profile. However, reducing the outstanding receivables would mitigate the increase in inventories and ease the reported financial liabilities.

Exemplary calculation

From a liquidity perspective, the evaluation of the cost of factoring might be of secondary interest. However, to facilitate understanding the several components of factoring, the indicative calculation for Adidas's example might provide a better view of the mechanics. The calculations and assumptions explained in the following are summarized in Exhibit 29. To estimate the cost and benefits of factoring, it is necessary to assume the factoring method and the receivables to sell. It is assumed that 50% of the receivables over the year are sold. For simplicity, the DRO at the end of 2019 are supposed to be constant throughout the year. The resulting receivables of €1,313m are transferred to the factoring company which may now deduct a blocked amount of 10% paid only after the debtor pays. Therefore, Adidas would receive €1,182m in cash immediately.

Additionally, the factoring firm will apply interest (assumed to be 1.5% p.a.) on this net amount for the period until the debtor pays (which is similar to the DRO). As factoring is applied on a rolling basis here, it is feasible to assume the interest is paid annually. Besides the interest cost, the factoring firm will charge the previously mentioned service fee (for taking over the billing and dunning services) and a general factoring/del credere fee based on the debtor's and Adidas' creditworthiness. The del credere fee is assumed to be 2% of the gross receivables sold, and the service fee is 1%. The total factoring cost for Adidas are calculated as:

$$Factoring\ cost = interest\ payments + service\ fee + factoring\ fee \quad (13)$$

This results in total costs of

$$€m\ 57.09 = €m\ 17.72 + €m\ 13.13 + €m\ 26.25.$$

These costs will be compared with the savings the company might have. First, the company can use the received cash to pay down debt, which will result in lower interest payments. In reality, the lower indebtedness (long-term debt interest rate assumed to be 2%) might reduce the total cost of debt, resulting in more savings on the remaining debt. Adidas would also benefit from the del credere protection, which would compensate for the clients' defaults. This is assumed to be at 0.5%. The higher it is in reality, the higher the del credere fee will be. The last effect of factoring is saving the outsourcing of the dunning cost usually conducted by the factoring company in a full-service agreement. The total savings for Adidas under these assumptions would be:

$$Factoring\ savings = Saved\ interest\ from\ debt\ paydown +$$
$$saved\ dunning\ cost + less\ write\ offs \quad (14)$$

This will result in savings of

$$€m\ 45.19 = €m\ 23.63 + €m\ 15.00 + €m\ 6.56$$

Under the given assumptions, Adidas would therefore have additional cost from factoring of c. €12m. Naturally, this is based on assumptions that in reality might be more complicated. However, the model conveys a sound introduction to the mechanics and input factors of factoring. The proposed approach would result in DRO of 20.5 days and improve Adidas' working capital and liquidity significantly. The valuation conducted in section 3 would also be impacted positively. Reducing the DRO by 50% in the Working capital scenario of average 2019 KPI figures would lift the share price from €208.94 to €219.13 (Exhibits 30 – 31). This indication neglects any other impacts on the FCFF and other items (e.g. a different financing structure and therefore other net debt figures and the annual factoring cost) besides working capital, but it gives a good indication on the effect of improved working capital metrics.

When looking at the ROCE, a debt pay down funded with factoring would also provide a positive impact. Normally, the factoring would be an asset swap, as the cash position increases and the receivables are reduced. This would therefore not affect the capital employed. Contrary, if Adidas were to pay down long-term debt, the capital employed would be reduced by that amount. Applying the cost savings on EBIT or net income concerning the new capital employed would increase the ROCE. Exhibit 29 shows the impact on ROCE based on EBIT and Net Income. Both ratios have improved from 22.3% to 24.6% (EBIT based) and 16.6% to 18.3% (Net Income based). The calculation refers to a change in capital employed by the amount that the company is assumed to receive in cash payments (€1,182m) to pay down debt and the previously shown impact on earnings. The EBIT is less affected, as it does not account for the changes in the financing structure. Even though the earnings profile will be weaker through the cost

of factoring, the reduction of the capital employed overcompensates this effect. The same would apply in the valuation case, as the cash-flow effect of the receivables will outweigh the cost accumulating in the P&L.

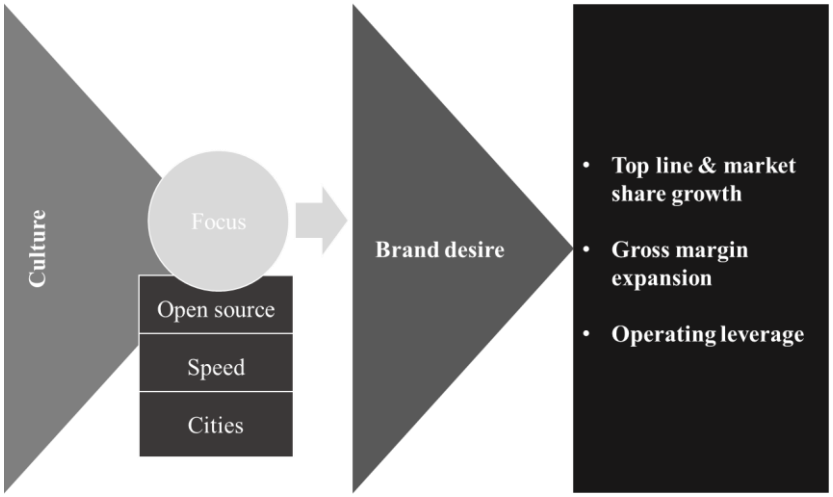
To conclude, factoring is not only attractive in terms of liquidity and cash flows. It can also affect a company's financing structure and provide the potential to manage the cost of capital actively. However, it does not apply to every company, as the cost can vary significantly through industries and company-specific characteristics. In any case, a sound evaluation of the cost and benefits should be conducted to draw the right and sustainable strategies.

2.2.6 Conclusion

In this case study, various aspects of working capital management were examined based on the branded apparel industry and Adidas. First, it was found that Adidas' working capital management was essentially in line with peers, but that rising inventories were a cause for concern. In the analysis of the impact of Covid 19, the negative implications of weaker working capital then became clear: First of all, cash flow was negatively affected. In addition, profitability in terms of ROCE was also under pressure from both the higher working capital requirements and the poorer gross margin. The negative impact on free cash flow was also reflected in various scenarios of a DCF analysis, in which the deviation in the share price was in part substantial. Finally, the possibility of mitigation through factoring was assessed through an example. Above all, it is essential to understand that working capital cannot be viewed unilaterally and must be viewed from different perspectives for each company and industry.

3 Appendix

Exhibit 1: "Creating the New"



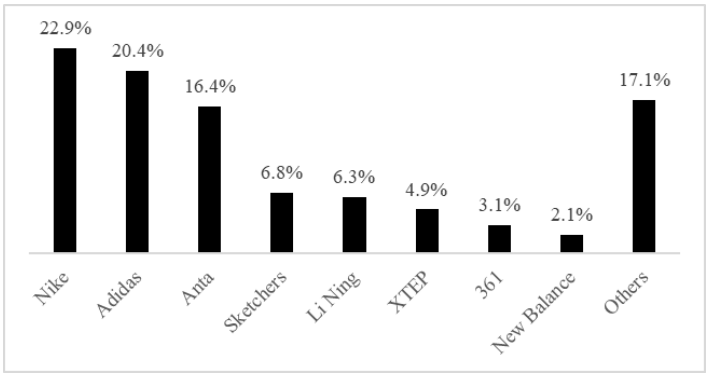
Source: Adidas AG, own presentation

Exhibit 2: Adidas P&L

€ in millions	FY 2016	FY 2017	FY 2018	FY2019	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020
Net sales	19,291	21,218	21,915	23,640	5,548	5,261	5,873	5,234	5,883	5,509	6,410	5,838	4,753	3,579	5,964
Cost of sales	9,912	10,514	10,552	11,347	2,713	2,509	2,829	2,502	2,732	2,564	3,071	2,980	2,408	1,753	2,981
Gross profit	**9,379**	**10,704**	**11,363**	**12,293**	**2,835**	**2,752**	**3,044**	**2,732**	**3,151**	**2,945**	**3,339**	**2,858**	**2,345**	**1,826**	**2,983**
Royalty and commission income	109	115	129	154	26	32	37	34	35	39	37	43	23	11	24
Other operating income	266	133	48	56	12	19	9	8	6	5	7	38	2	18	10
Other operating expenses	8,263	8,882	9,172	9,843	2,127	2,210	2,191	2,645	2,317	2,346	2,846	2,694	2,305	2,189	2,223
Operating profit	**1,491**	**2,070**	**2,368**	**2,660**	**746**	**593**	**899**	**129**	**875**	**643**	**537**	**245**	**65**	**(334)**	**794**
Financial income	28	46	57	64	19	14	13	22	8	18	12	36	7	13	6
Financial expenses	74	93	47	166	16	18	7	17	35	43	44	53	45	44	44
Income before taxes	**1,445**	**2,023**	**2,378**	**2,558**	**749**	**589**	**905**	**134**	**848**	**618**	**505**	**228**	**27**	**(365)**	**756**
Income taxes	426	668	669	640	208	169	251	41	217	157	220	46	7	(58)	177
Net income from continuing operations	**1,019**	**1,355**	**1,709**	**1,918**	**541**	**420**	**654**	**93**	**631**	**461**	**285**	**182**	**20**	**(307)**	**579**
Gains from discontinued operations, net of tax	1	(254)	(5)	59	(1)	(21)	3	15	2	70	2	(15)	6	(11)	(1)
Net income	**1,020**	**1,101**	**1,704**	**1,977**	**540**	**399**	**657**	**108**	**633**	**531**	**287**	**167**	**26**	**(318)**	**578**

Source: Adidas AG, Financial Statements

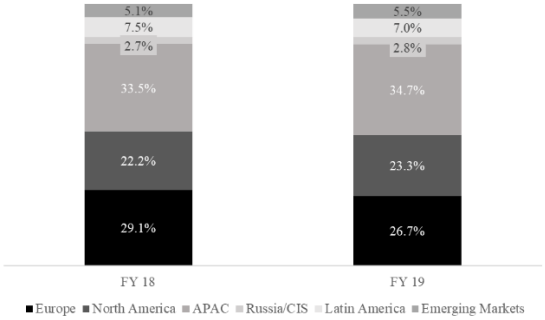
Exhibit 3: 2019 Market Shares in China



Source: Euromonitor

Exhibit 4: Adidas Revenue Split

€m	FY 18	FY 19	% YoY growth
Europe	6,372	6,321	-0.8%
North America	4,869	5,501	13.0%
APAC	7,334	8,192	11.7%
Russia/CIS	595	658	10.6%
Latin America	1,638	1,662	1.5%
Emerging Markets	1,107	1,306	18.0%
Total	21,915	23,640	7.9%



Source: Adidas AG, financial statements

Exhibit 5: Adidas indebtedness

in €m	FY 2016	FY 2017	FY 2018	FY2019	Q1 2020	Q2 2020	Q3 2020
Short Term Borrowings	636	137	66	43	964	1,217	1,726
Long Term Borrowings	982	983	1,609	1,595	1,592	1,599	2,590
Cash and cash equivalents	1,510	1,598	2,629	2,220	1,975	2,018	3,224
Short-term financial assets	5	5	6	292	10	6	0
Financial Debt	103	(483)	(960)	(874)	571	792	1,092
/ Shareholders Eqiuty	6,471	6,450	6,377	6,796	6,662	6,230	6,532
Leverage / Gearing	**1.6%**	**(7.5%)**	**(15.1%)**	**(12.9%)**	**8.6%**	**12.7%**	**16.7%**

Source: Adidas AG, financial statements, own analysis

Exhibit 6: Adidas ROC

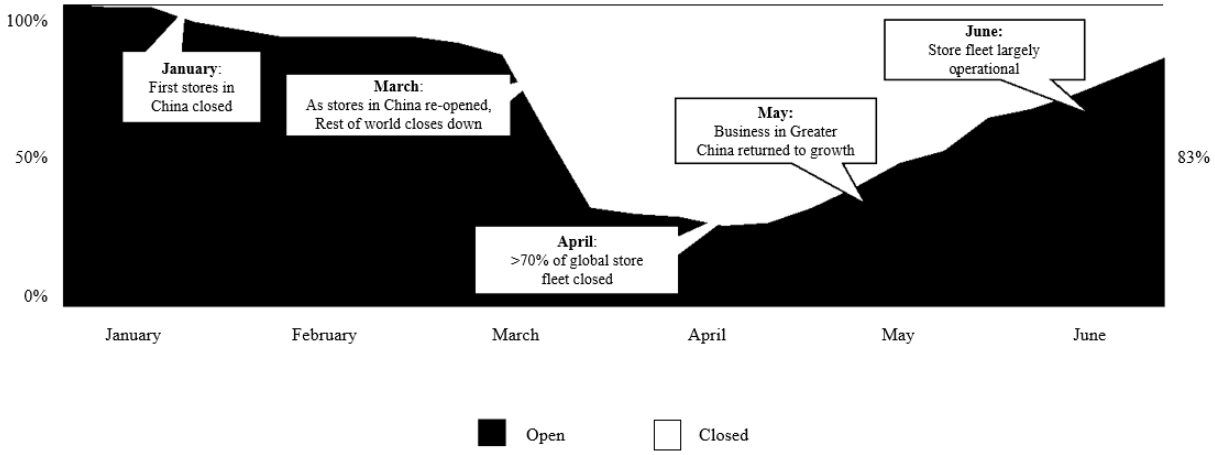
in €m	FY 2016	FY 2017	FY 2018	FY2019	Q1 2020	Q2 2020	Q3 2020
Shareholders' equity	6,471	6,450	6,377	6,796	6,662	6,230	6,532
Non-controlling interests	(17)	(15)	(13)	261	266	241	258
Short-term borrowings	636	137	66	43	964	1,217	1,726
Long-term borrowings	982	983	1,609	1,595	1,592	1,599	2,590
Non-current lease liabilities	-	-	-	2,399	2,412	2,374	2,309
Current lease liabilities	-	-	-	733	550	639	598
Total	**8,072**	**7,555**	**8,039**	**11,827**	**12,446**	**12,300**	**14,013**
NOPAT (EBIT * (1- tax rate of 30%))	1,044	1,449	1,658	1,862	46	(234)	556
ROC / ROIC	**12.9%**	**19.2%**	**20.6%**	**15.7%**	**0.4%**	**(1.9%)**	**4.0%**

Source: Adidas AG, financial statements, own analysis

Exhibit 7: Adidas AG share price (January 2016 – October 2020)

Source: Thomson Reuters Eikon

Exhibit 8: Adidas Store operations



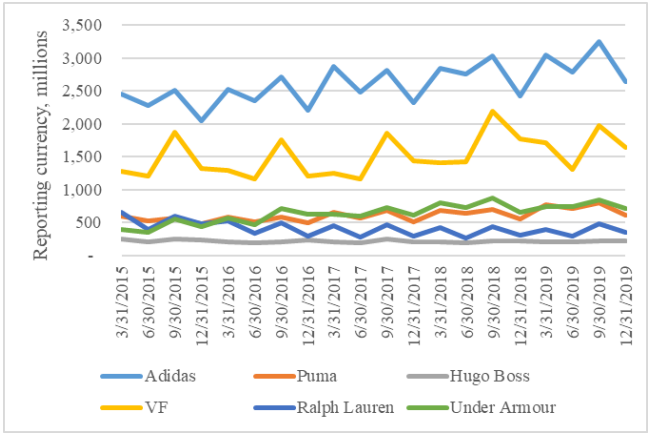
Source: Company Information, own presentation

Exhibit 9: Adidas AG statements of financial position

€ in millions	FY 2016	FY 2017	FY 2018	FY2019	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020
Assets															
Cash and cash equivalents	1,510	1,598	2,629	2,220	1,575	1,313	2,209	2,629	2,584	2,455	2,349	2,220	1,975	2,018	3,224
Short-term financial assets	5	5	6	292	5	5	5	6	5	6	6	292	10	6	-
Accounts receivable	2,200	2,315	2,418	2,625	2,837	2,751	3,037	2,418	3,044	2,780	3,247	2,625	2,794	1,869	2,607
Other current financial assets	729	393	542	544	375	421	530	542	574	548	699	544	698	653	772
Inventories	3,763	3,692	3,445	4,085	3,224	3,425	3,216	3,445	3,285	3,579	3,677	4,085	4,334	5,213	4,676
Income tax receivables	98	71	48	94	59	57	57	48	51	71	78	94	108	121	128
Other current assets	580	570	725	1,076	763	758	762	725	805	795	892	1,076	1,250	1,051	955
Total current assets	**8,885**	**8,644**	**9,813**	**10,936**	**8,838**	**8,730**	**9,816**	**9,813**	**10,348**	**10,234**	**10,948**	**10,936**	**11,169**	**10,931**	**12,362**
Property, plant and equipment	1,915	2,000	2,237	2,379	1,967	2,025	2,115	2,237	2,221	2,146	2,214	2,379	2,350	2,293	2,180
Right-of-use assets	-	-	-	2,930	-	-	-	-	2,926	3,004	2,919	2,930	2,759	2,733	2,648
Goodwill	1,412	1,220	1,245	1,257	1,206	1,236	1,239	1,245	1,258	1,249	1,276	1,257	1,271	1,258	1,233
Trademarks	1,680	1,309	844	859	1,274	829	834	844	859	849	886	859	880	820	785
Other intangible assets	167	154	196	304	155	160	171	196	205	209	216	304	295	284	244
Long-term financial assets	194	236	276	367	279	277	278	276	327	346	361	367	352	351	351
Other non-current financial assets	96	219	256	450	240	260	323	256	316	408	417	450	388	340	375
Deferred tax assets	732	630	651	1,093	736	683	656	651	718	713	723	1,093	1,139	1,166	1,170
Other non-current assets	94	108	94	103	109	106	107	94	90	114	150	103	178	124	113
Total non-current assets	**6,290**	**5,876**	**5,799**	**9,742**	**5,966**	**5,576**	**5,723**	**5,799**	**8,920**	**9,038**	**9,162**	**9,742**	**9,612**	**9,369**	**9,099**
Total assets	**15,175**	**14,520**	**15,612**	**20,678**	**14,804**	**14,306**	**15,539**	**15,612**	**19,268**	**19,272**	**20,110**	**20,678**	**20,781**	**20,300**	**21,461**
Liabilities and equity															
Short-term borrowings	636	137	66	43	226	95	62	66	76	496	414	43	964	1,217	1,726
Accounts payable	2,496	1,975	2,300	2,703	1,573	1,858	1,929	2,300	2,021	2,111	2,354	2,703	2,494	2,575	1,710
Current lease liabilities	-	-	-	733	-	-	-	-	545	625	559	733	550	639	598
Other current financial liabilities	201	362	186	235	396	275	187	186	230	215	227	235	176	265	289
Income taxes	402	424	268	618	547	532	547	268	414	384	379	618	624	588	630
Other current provisions	573	741	1,232	1,446	988	1,086	1,107	1,232	1,272	1,236	1,304	1,446	1,689	1,373	1,371
Current accrued liabilities	2,023	2,180	2,305	2,437	1,929	2,129	2,201	2,305	2,293	2,225	2,266	2,437	2,109	1,933	2,204
Other current liabilities	434	470	477	538	554	480	488	477	569	480	483	538	489	547	394
Total current liabilities	**6,765**	**6,289**	**6,834**	**8,753**	**6,213**	**6,455**	**6,521**	**6,834**	**7,420**	**7,772**	**7,986**	**8,753**	**9,095**	**9,137**	**8,922**
Long-term borrowings	982	983	1,609	1,595	984	1,134	1,617	1,609	1,606	1,602	1,599	1,595	1,592	1,599	2,590
Non-current lease liabilities	-	-	-	2,399	-	-	-	-	2,482	2,523	2,548	2,399	2,412	2,374	2,309
Other non-current financial liabilities	22	22	103	92	25	9	129	103	131	72	92	92	47	46	94
Pensions and similar obligations	355	298	246	229	297	298	295	246	253	259	260	229	209	245	267
Deferred tax liabilities	387	275	241	280	306	203	285	241	261	250	297	280	304	224	247
Other non-current provisions	44	80	128	257	91	106	123	128	167	164	205	257	178	179	215
Non-current accrued liabilities	120	85	19	9	36	13	15	19	20	13	12	9	9	9	8
Other non-current liabilities	46	53	68	7	56	61	66	68	10	8	7	7	7	16	19
Total non-current liabilities	**1,956**	**1,796**	**2,414**	**4,868**	**1,795**	**1,824**	**2,530**	**2,414**	**4,930**	**4,891**	**5,020**	**4,868**	**4,758**	**4,692**	**5,749**
Share capital	201	204	199	196	204	201	200	199	198	198	197	196	195	195	195
Reserves	749	(81)	124	45	(215)	133	115	124	206	174	347	45	136	(2)	(247)
Retained earnings	5,521	6,327	6,054	6,555	6,820	5,705	6,185	6,054	6,526	6,248	6,572	6,555	6,331	6,037	6,584
Shareholders' equity	**6,471**	**6,450**	**6,377**	**6,796**	**6,809**	**6,039**	**6,500**	**6,377**	**6,930**	**6,620**	**7,116**	**6,796**	**6,662**	**6,230**	**6,532**
Non-controlling interests	(17)	(15)	(13)	261	(13)	(12)	(12)	(13)	(12)	(11)	(12)	261	266	241	258
Total equity	**6,454**	**6,435**	**6,364**	**7,057**	**6,796**	**6,027**	**6,488**	**6,364**	**6,918**	**6,609**	**7,104**	**7,057**	**6,928**	**6,471**	**6,790**
Total liabilities and equity	**15,175**	**14,520**	**15,612**	**20,678**	**14,804**	**14,306**	**15,539**	**15,612**	**19,268**	**19,272**	**20,110**	**20,678**	**20,781**	**20,300**	**21,461**
Capital Employed	8,410	8,231	8,778	11,925	8,591	7,851	9,018	8,778	11,848	11,500	12,124	11,925	11,686	11,163	12,539
Working Capital	3,467	4,032	3,563	4,007	4,488	4,318	4,324	3,563	4,308	4,248	4,570	4,007	4,634	4,507	5,573

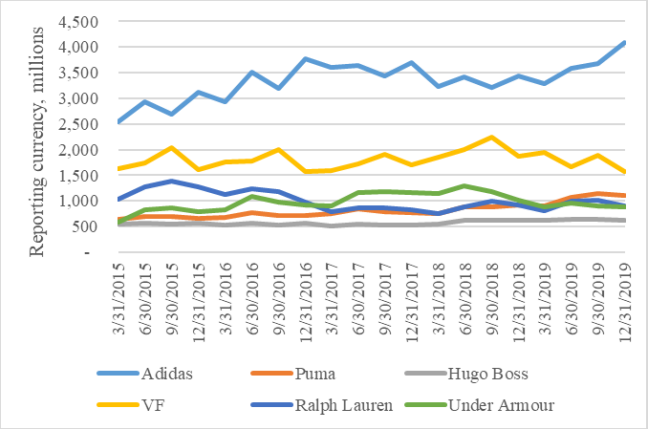
Source: Adidas AG, financial statements

Exhibit 10: Peer comparison of accounts receivable



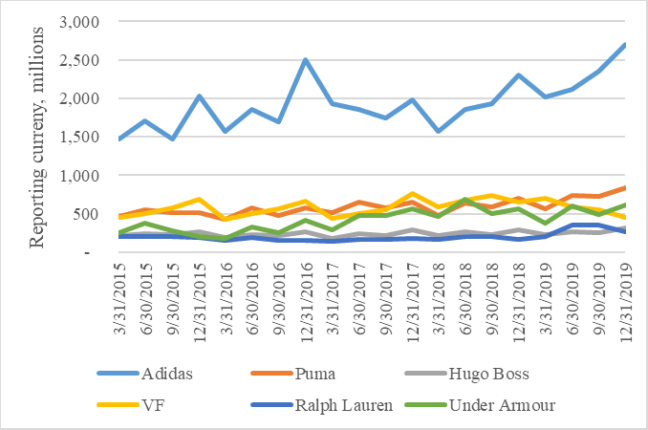
Source: Company information

Exhibit 11: Peer comparison of inventories



Source: Company information

Exhibit 12: Peer comparison accounts payable



Source: Company information

Exhibit 13: Peers quarterly working capital KPIs 2015 – 2019

		2015 12/31/2015	2016 3/31/2016	2016 6/30/2016	2016 9/30/2016	2016 12/31/2016	2017 3/31/2017	2017 6/30/2017	2017 9/30/2017	2017 12/31/2017	2018 3/31/2018	2018 6/30/2018	2018 9/30/2018	2018 12/31/2018	2019 3/31/2019	2019 6/30/2019	2019 9/30/2019	2019 12/31/2019
1	**DRO**																	
	Adidas	44	52	47	53	42	52	43	49	39	49	47	51	40	50	45	51	41
	Puma	52	63	54	60	50	63	52	61	44	59	53	57	43	58	51	55	41
	Hugo Boss	31	27	25	28	31	28	25	33	28	28	25	29	28	27	27	29	27
	VF	39	39	35	53	37	39	37	59	45	42	41	61	47	45	36	56	49
	Ralph Lauren	24	26	17	25	15	25	16	27	17	25	15	25	18	23	17	28	20
	Under Armour	40	49	38	56	47	47	44	59	48	63	55	61	46	52	51	59	49
	Min	24	26	17	25	15	25	16	27	17	25	15	25	18	23	17	28	20
	Max	52	63	54	60	50	63	52	61	48	63	55	61	47	58	51	59	49
	Mean(ex Adidas)	37	41	34	45	36	40	35	48	36	43	38	47	36	41	36	45	37
	Median (ex Adidas)	39	39	35	53	37	39	37	59	44	42	41	57	43	45	36	55	41
2	**DIO**																	
	Adidas	135	123	143	125	143	131	129	122	132	116	122	113	119	113	123	123	131
	Puma	134	136	150	135	133	134	147	134	130	124	144	141	139	133	151	155	144
	Hugo Boss	216	203	221	214	226	204	214	206	211	213	239	239	232	229	236	239	227
	VF	92	100	101	116	93	98	107	120	107	111	115	126	101	104	94	113	100
	Ralph Lauren	146	128	141	132	115	96	110	119	118	114	134	150	137	123	148	152	187
	Under Armour	139	139	171	143	130	125	158	161	154	150	167	150	130	112	124	118	116
	Min	92	100	101	116	93	96	107	119	107	111	115	113	101	104	94	113	100
	Max	216	203	221	214	226	204	214	206	211	213	239	239	232	229	236	239	227
	Mean(ex Adidas)	145	141	157	148	139	131	147	148	144	143	160	161	148	140	151	155	155
	Median (ex Adidas)	139	136	150	135	130	125	147	134	130	124	144	150	137	123	148	152	144
3	**DPO**																	
	Adidas	88	66	76	66	95	70	66	62	71	57	66	68	80	70	73	79	87
	Puma	106	85	112	91	108	91	111	98	108	77	103	93	107	82	105	98	109
	Hugo Boss	105	74	88	85	108	72	97	85	112	87	105	90	111	86	100	92	114
	VF	39	24	29	33	39	27	31	35	48	35	39	41	35	37	33	33	29
	Ralph Lauren	22	17	22	18	19	18	21	24	26	25	30	30	25	30	53	52	55
	Under Armour	36	31	52	38	59	41	65	66	75	62	89	64	72	48	78	63	81
	Min	22	17	22	18	19	18	21	24	26	25	30	30	25	30	33	33	29
	Max	106	85	112	91	108	91	111	98	112	87	105	93	111	86	105	98	114
	Mean(ex Adidas)	62	46	61	53	67	50	65	61	74	57	73	64	70	57	74	68	78
	Median (ex Adidas)	39	31	52	38	59	41	65	66	75	62	89	64	72	48	78	63	81
4	**CCC**																	
	Adidas	91	109	115	112	90	113	106	109	101	108	102	96	80	94	96	96	85
	Puma	80	113	92	104	76	105	88	97	67	106	94	105	75	109	97	112	75
	Hugo Boss	142	156	159	158	149	161	142	154	127	154	159	178	149	171	162	176	140
	VF	92	114	108	136	90	110	112	144	104	118	117	146	114	112	96	136	119
	Ralph Lauren	148	137	136	140	112	103	106	122	108	114	118	145	129	116	112	127	151
	Under Armour	143	157	157	161	118	131	137	154	128	152	133	147	105	116	97	114	85
	Min	80	109	92	104	76	103	88	97	67	106	94	96	75	94	96	96	75
	Max	148	157	159	161	149	161	142	154	128	154	159	178	149	171	162	176	151
	Mean(ex Adidas)	121	136	130	140	109	122	117	134	107	129	125	144	114	125	113	133	114
	Median (ex Adidas)	142	137	136	140	112	110	112	144	108	118	118	146	114	116	97	127	119

Source: Company information, own analysis

Exhibit 14: Peers quarterly working capital KPIs 2015 – 2019

	Unit	3/31/2015	6/30/2015	9/30/2015	12/31/2015	3/31/2016	6/30/2016	9/30/2016	12/31/2016	3/31/2017	6/30/2017	9/30/2017	12/31/2017	3/31/2018	6/30/2018	9/30/2018	12/31/2018	3/31/2019	6/30/2019	9/30/2019	12/31/2019
Sales																					
Adidas	EURm'000	4,083	3,907	4,758	4,167	4,769	4,422	5,413	4,687	5,671	5,038	5,677	5,056	5,548	5,261	5,873	5,233	5,883	5,509	6,410	5,838
Puma	EURm'000	821	773	914	879	852	827	990	958	1,005	969	1,122	1,040	1,131	1,049	1,242	1,226	1,319	1,227	1,478	1,479
Hugo Boss	EURm'000	668	647	744	750	643	622	703	725	651	636	711	735	650	653	710	783	664	675	720	825
VF	USDm'000	2,803	2,484	3,583	3,380	2,809	2,418	3,458	3,217	2,484	2,333	3,481	3,405	3,023	2,788	3,907	3,940	3,213	2,271	3,393	3,385
Ralph Lauren	USDm'000	1,885	1,577	1,923	1,899	1,831	1,514	1,773	1,670	1,696	1,347	1,664	1,642	1,529	1,391	1,691	1,726	1,509	1,429	1,706	1,751
Under Armour	USDm'000	805	784	1,204	1,171	1,048	1,001	1,472	1,308	1,117	1,088	1,046	1,365	1,185	1,175	1,443	1,390	1,205	1,192	1,429	1,441
COGS																					
Adidas	EURm'000	1,998	1,933	2,370	2,107	2,325	2,173	2,738	2,399	2,771	2,411	2,696	2,332	2,713	2,509	2,829	2,502	2,732	2,564	3,071	2,980
Puma	EURm'000	423	398	481	487	453	450	536	531	532	518	582	550	586	539	626	648	672	622	743	779
Hugo Boss	EURm'000	231	217	264	235	231	202	248	237	232	206	250	240	234	216	266	257	240	230	264	275
VF	USDm'000	1,447	1,300	1,884	1,763	1,472	1,269	1,801	1,625	1,244	1,187	1,752	1,663	1,506	1,385	1,951	1,896	1,595	1,036	1,597	1,500
Ralph Lauren	USDm'000	811	652	857	852	857	657	867	731	747	496	668	646	621	495	662	666	604	508	657	760
Under Armour	USDm'000	427	405	617	609	567	523	773	722	612	590	760	776	662	648	778	765	660	637	740	
Inventories																					
Adidas	EURm'000	2,539	2,927	2,698	3,113	2,939	3,514	3,203	3,763	3,609	3,644	3,441	3,692	3,224	3,425	3,216	3,445	3,285	3,579	3,677	4,085
Puma	EURm'000	648	705	690	657	678	768	715	719	751	851	796	779	760	891	888	915	908	1,063	1,141	1,110
Hugo Boss	EURm'000	539	563	544	560	528	566	537	568	514	542	522	537	542	615	625	618	615	641	650	627
VF	USDm'000	1,624	1,747	2,039	1,612	1,763	1,776	2,000	1,569	1,593	1,713	1,910	1,707	1,861	1,994	2,247	1,867	1,943	1,665	1,891	1,565
Ralph Lauren	USDm'000	1,042	1,270	1,380	1,271	1,125	1,242	1,173	984	792	860	865	825	761	890	995	915	818	989	1,013	905
Under Armour	USDm'000	578	837	867	783	834	1,087	971	917	902	1,169	1,181	1,159	1,148	1,299	1,173	1,019	875	966	907	892
Receivables																					
Adidas	EURm'000	2,456	2,271	2,502	2,049	2,517	2,356	2,715	2,200	2,876	2,477	2,808	2,315	2,837	2,751	3,037	2,418	3,044	2,780	3,247	2,642
Puma	EURm'000	596	524	566	483	587	516	584	499	648	562	677	504	685	634	703	554	769	705	795	612
Hugo Boss	EURm'000	244	211	248	240	207	192	211	228	209	188	244	208	206	190	219	214	211	207	223	216
VF	USDm'000	1,283	1,200	1,871	1,320	1,293	1,165	1,758	1,198	1,241	1,156	1,851	1,430	1,409	1,429	2,196	1,774	1,709	1,306	1,976	1,642
Ralph Lauren	USDm'000	655	390	594	473	517	338	490	285	450	279	470	295	421	260	432	304	398	291	483	349
Under Armour	USDm'000	396	353	551	434	566	461	714	626	629	603	733	610	805	725	867	653	744	735	843	709
Payables																					
Adidas	EURm'000	1,475	1,712	1,476	2,024	1,573	1,857	1,689	2,496	1,931	1,862	1,747	1,975	1,573	1,858	1,929	2,300	2,021	2,111	2,354	2,703
Puma	EURm'000	467	558	509	520	425	573	481	581	513	645	581	646	471	638	587	705	559	740	722	844
Hugo Boss	EURm'000	218	237	226	272	192	225	212	272	180	245	215	286	221	270	235	295	230	272	249	315
VF	USDm'000	458	504	580	690	430	503	566	665	436	503	554	761	583	676	732	646	695	588	551	457
Ralph Lauren	USDm'000	210	207	206	195	151	192	159	158	148	161	173	184	166	203	202	169	202	352	350	268
Under Armour	USDm'000	252	375	274	200	184	332	254	419	295	483	483	561	470	691	499	561	377	607	484	618
Working Capital																					
Adidas	EURm'000	3,520	3,486	3,724	3,138	3,883	4,013	4,229	3,467	4,554	4,259	4,502	4,032	4,488	4,318	4,324	3,563	4,308	4,248	4,570	4,024
Puma	EURm'000	778	670	746	620	840	711	818	638	886	767	893	636	974	886	1,004	764	1,117	1,028	1,214	878
Hugo Boss	EURm'000	566	537	566	528	542	533	536	524	543	484	551	459	527	535	609	537	596	576	624	528
VF	USDm'000	2,450	2,443	3,329	2,242	2,626	2,438	3,193	2,102	2,399	2,366	3,207	2,376	2,687	2,747	3,711	2,996	2,957	2,383	3,316	2,750
Ralph Lauren	USDm'000	1,487	1,453	1,768	1,549	1,491	1,388	1,504	1,111	1,094	978	1,162	936	1,017	947	1,225	1,049	1,014	928	1,145	986
Under Armour	USDm'000	722	815	1,144	1,016	1,216	1,216	1,430	1,124	1,236	1,288	1,431	1,207	1,484	1,333	1,541	1,111	1,241	1,094	1,266	983

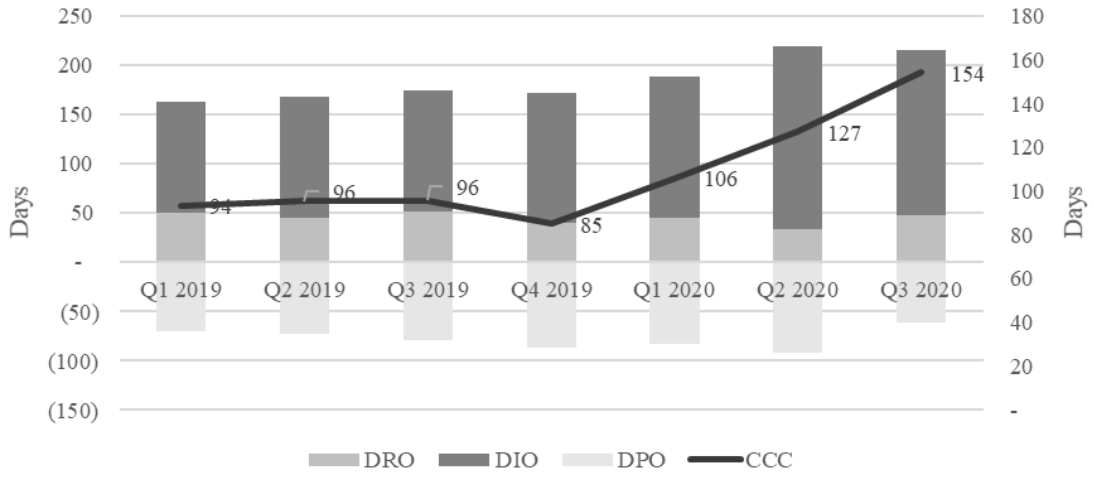
Source: Company Information, WRDS

Exhibit 15: Working capital KPIs

365	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020
DRO	50	45	51	41	45	33	47
DIO	113	123	123	131	144	186	169
DPO	(70)	(73)	(79)	(87)	(83)	(92)	(62)
CCC	94	96	96	85	106	127	154
Inventory Turnover	3.25x	3.03x	3.15x	3.01x	2.89x	2.32x	2.42x
Receivables Turnover	7.57x	8.14x	7.33x	9.38x	7.71x	8.85x	6.88x

Source: Company information, own analysis

Exhibit 16: Working capital KPIs (Graphs)



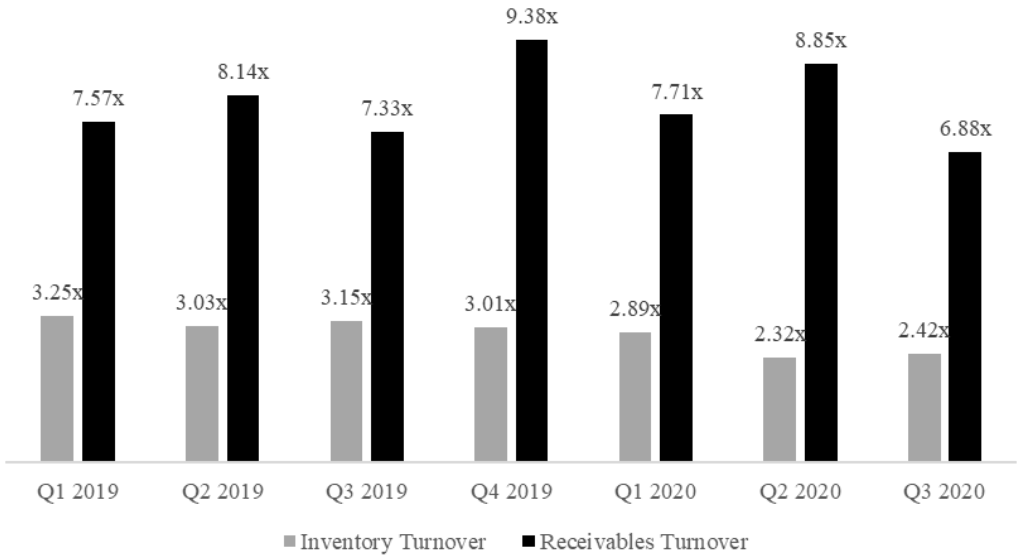
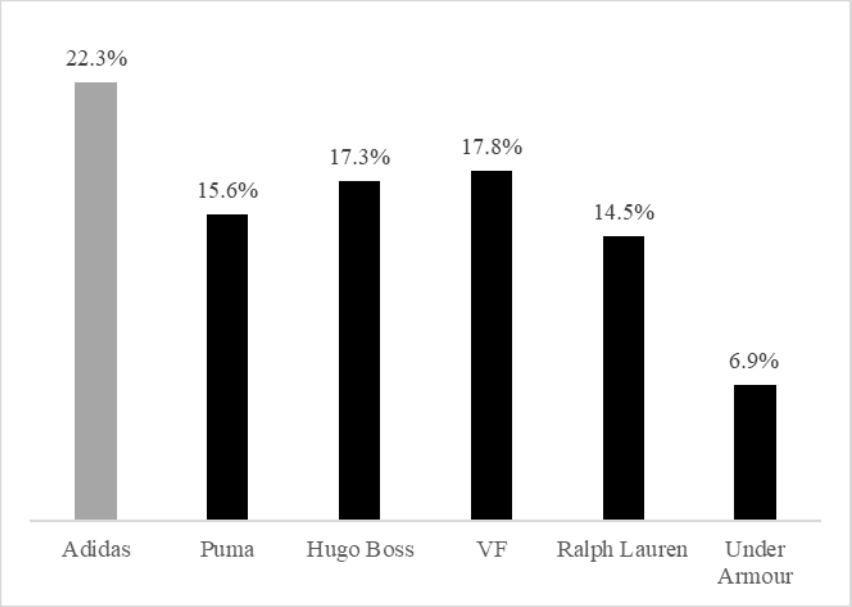


Exhibit 17: LTM ROCE of peers in as of December 2019



Capital Employed as of Dec 30, 2019	Adidas	Puma	Hugo Boss	VF	Ralph Lauren	Under Armour
In reporting Currency, millions	€	€	€	$	$	$
Total Assets	20,678	4,378	2,877	10,864	7,446	4,844
Short Term Liabilities	8,753	1,559	882	1,962	1,775	1,422
Capital Employed	11,925	2,819	1,996	8,902	5,671	3,422
Dec 19 LTM EBIT	2,660	440	345	1,585	822	237
ROCE	22.3%	15.6%	17.3%	17.8%	14.5%	6.9%

Nike As of February 2020 , USDbn	
Total Assets	26
Short Term Liabilitie	8
Capital Employed	18
EBIT	5
ROCE	**29.38%**

Source: Company information, own analysis

Exhibit 18: Adidas ROCE calculations

Reported Analysis			
Total Assets	**Q1 2020**	**Q2 2020**	**Q3 2020**
Total Assets Excluding Receivables and Inventories	13,653	13,218	14,178
Accounts Receivable	2,794	1,869	2,607
Inventories	4,334	5,213	4,676
Total Assets	**20,781**	**20,300**	**21,461**
Current Liabilities	**Q1 2020**	**Q2 2020**	**Q3 2020**
Total Current Liabilities excl. Payables	6,601	6,562	7,212
Accounts Payable	2,494	2,575	1,710
Total Current Liabilities	**9,095**	**9,137**	**8,922**
ROCE	**Q1 2020**	**Q2 2020**	**Q3 2020**
Capital Employed	11,686	11,163	12,539
LTM EBIT	1,490	513	770
ROCE	**12.8%**	**4.6%**	**6.1%**

Adjusted Analysis			
WC Inputs based on YoY	**Q1 2020**	**Q2 2020**	**Q3 2020**
Assumed DRO	50	45	51
Assumed DIO	113	123	123
Assumed DPO	70	73	79
Days	365	365	365
Total Assets	**Q1 2020**	**Q2 2020**	**Q3 2020**
Total Assets Excluding Receivables and Inventories	13,653	13,218	14,178
Accounts Receivable	3,079	2,543	2,838
Inventories	3,425	3,439	3,424
Total Assets	**20,158**	**19,200**	**20,440**
Current Liabilities	**Q1 2020**	**Q2 2020**	**Q3 2020**
Total Current Liabilities excl. Payables	6,601	6,562	7,212
Accounts Payable	2,107	2,029	2,192
Total Current Liabilities	**8,708**	**8,591**	**9,404**
ROCE	**Q1 2020**	**Q2 2020**	**Q3 2020**
Capital Employed	11,449	10,610	11,036
LTM EBIT	1,490	513	770
ROCE	**13.0%**	**4.8%**	**6.98%**
Deltas	**Q1 2020**	**Q2 2020**	**Q3 2020**
Improvement of Capital employed (adjusted vs. unadjusted)	(237)	(553)	(1,503)
ROCE unadjusted	12.750%	4.596%	6.141%
ROCE adjusted	13.014%	4.835%	6.977%
Change in BPS	(26.35)	(23.97)	(83.63)
Change in %	(2.03%)	(4.96%)	(11.99%)

Source: Company information, own analysis

Exhibit 19: Forecasted P&L

in€m	Actual 1/1/2019 12/31/2019 2019A	Plan 1/1/2020 12/31/2020 2020E	Plan 1/1/2021 12/31/2021 2021E	Plan 1/1/2022 12/31/2022 2022E	Plan 1/1/2023 12/31/2023 2023E	Plan 1/1/2024 12/31/2024 2024E	Plan 1/1/2025 12/31/2025 2025E	LT Plan 1/1/2026 12/31/2026 2026E	LT Plan 1/1/2027 12/31/2027 2027E	LT Plan 1/1/2028 12/31/2028 2028E	LT Plan 1/1/2029 12/31/2029 2029E	LT Plan 1/1/2030 12/31/2030 2030E
Net sales	23,640	19,858	22,836	24,892	26,883	28,765	30,490	32,015	33,616	35,297	37,061	38,914
Cost of sales	11,347	10,127	10,961	11,948	12,904	13,807	14,635	15,047	15,799	16,589	17,419	18,290
Gross profit	**12,293**	**9,730**	**11,875**	**12,944**	**13,979**	**14,958**	**15,855**	**16,968**	**17,816**	**18,707**	**19,643**	**20,625**
% Gross Margin	*52%*	*49%*	*52%*	*52%*	*52%*	*52%*	*52%*	*53%*	*53%*	*53%*	*53%*	*53%*
Royalty and commission income	154	129	149	162	175	187	199	209	219	230	241	254
Other operating income	56	47	54	59	64	68	72	76	80	84	88	92
Other operating expenses	9,843	9,330	9,591	10,454	11,291	12,081	12,806	13,286	13,951	14,648	15,380	16,150
Operating profit	**2,660**	**576**	**2,486**	**2,710**	**2,927**	**3,132**	**3,320**	**3,966**	**4,164**	**4,373**	**4,591**	**4,821**
Financial income	64	35	35	35	35	35	35	35	35	35	35	35
Financial expenses	166	177	177	177	177	177	177	177	177	177	177	177
Income before taxes	**2,558**	**434**	**2,344**	**2,568**	**2,784**	**2,989**	**3,177**	**3,823**	**4,022**	**4,230**	**4,449**	**4,678**
Income taxes	640	130	703	770	835	897	953	1,147	1,207	1,269	1,335	1,403
Net income from continuing operations	**1,918**	**304**	**1,641**	**1,797**	**1,949**	**2,093**	**2,224**	**2,676**	**2,815**	**2,961**	**3,114**	**3,275**
Gains from discontinued operations, net of tax	59	0	0	0	0	0	0	0	0	0	0	0
Net income	**1,977**	**304**	**1,641**	**1,797**	**1,949**	**2,093**	**2,224**	**2,676**	**2,815**	**2,961**	**3,114**	**3,275**

Source: Company information, own analysis

Exhibit 20: Forecasted FCFF with Q320 working capital KPIs

	Plan 1/1/2021 12/31/2021 2021E	Plan 1/1/2022 12/31/2022 2022E	Plan 1/1/2023 12/31/2023 2023E	Plan 1/1/2024 12/31/2024 2024E	Plan 1/1/2025 12/31/2025 2025E	LT Plan 1/1/2026 12/31/2026 2026E	LT Plan 1/1/2027 12/31/2027 2027E	LT Plan 1/1/2028 12/31/2028 2028E	LT Plan 1/1/2029 12/31/2029 2029E	LT Plan 1/1/2030 12/31/2030 2030E
EBIT	2,486	2,710	2,927	3,132	3,320	3,966	4,164	4,373	4,591	4,821
Taxes	746	813	878	940	996	1,190	1,249	1,312	1,377	1,446
NOPAT	**1,741**	**1,897**	**2,049**	**2,192**	**2,324**	**2,776**	**2,915**	**3,061**	**3,214**	**3,375**
D&A	1,173	1,278	1,381	1,477	1,566	1,644	1,726	1,813	1,903	1,998
Capex	(754)	(864)	(980)	(1,101)	(1,225)	(1,351)	(1,490)	(1,643)	(1,812)	(1,998)
Change in	(385)	(456)	(442)	(417)	(383)	(190)	(348)	(365)	(383)	(402)
Change in	(386)	(266)	(258)	(244)	(223)	(197)	(207)	(218)	(229)	(240)
Change in	141	167	161	153	140	70	127	133	140	147
FCF	**1,529**	**1,757**	**1,912**	**2,060**	**2,198**	**2,751**	**2,723**	**2,781**	**2,833**	**2,879**
TV										59,029
Discount F	0.93	0.87	0.80	0.75	0.70	0.65	0.60	0.56	0.52	0.49
DCF	**1,422**	**1,520**	**1,539**	**1,543**	**1,531**	**1,783**	**1,642**	**1,559**	**1,478**	**30,037**
% of EV	3%	3%	3%	4%	3%	4%	4%	4%	3%	68%

Source: Company information, own analysis

Exhibit 21: Forecasted FCFF with 2020 average working capital KPIs

	Plan 1/1/2021 12/31/2021 2021E	Plan 1/1/2022 12/31/2022 2022E	Plan 1/1/2023 12/31/2023 2023E	Plan 1/1/2024 12/31/2024 2024E	Plan 1/1/2025 12/31/2025 2025E	LT Plan 1/1/2026 12/31/2026 2026E	LT Plan 1/1/2027 12/31/2027 2027E	LT Plan 1/1/2028 12/31/2028 2028E	LT Plan 1/1/2029 12/31/2029 2029E	LT Plan 1/1/2030 12/31/2030 2030E
EBIT	2,486	2,710	2,927	3,132	3,320	3,966	4,164	4,373	4,591	4,821
Taxes	746	813	878	940	996	1,190	1,249	1,312	1,377	1,446
NOPAT	**1,741**	**1,897**	**2,049**	**2,192**	**2,324**	**2,776**	**2,915**	**3,061**	**3,214**	**3,375**
D&A	1,173	1,278	1,381	1,477	1,566	1,644	1,726	1,813	1,903	1,998
Capex	(754)	(864)	(980)	(1,101)	(1,225)	(1,351)	(1,490)	(1,643)	(1,812)	(1,998)
Change in Inventories	(380)	(449)	(435)	(411)	(377)	(187)	(342)	(360)	(378)	(396)
Change in Receivables	(342)	(236)	(229)	(216)	(198)	(175)	(184)	(193)	(203)	(213)
Change in Payables	180	213	206	195	179	89	162	170	179	188
FCF	**1,617**	**1,840**	**1,992**	**2,136**	**2,268**	**2,795**	**2,787**	**2,848**	**2,904**	**2,953**
TV										60,543
Discount Factor	0.93	0.87	0.80	0.75	0.70	0.65	0.60	0.56	0.52	0.49
DCF	**1,504**	**1,592**	**1,604**	**1,600**	**1,580**	**1,811**	**1,680**	**1,597**	**1,515**	**30,808**
% of EV	3%	4%	4%	4%	3%	4%	4%	4%	3%	68%

Source: company information, own analysis

Exhibit 22: Forecasted FCFF with 2019 average working capital KPIs

	Plan 1/1/2021 12/31/2021 2021E	Plan 1/1/2022 12/31/2022 2022E	Plan 1/1/2023 12/31/2023 2023E	Plan 1/1/2024 12/31/2024 2024E	Plan 1/1/2025 12/31/2025 2025E	LT Plan 1/1/2026 12/31/2026 2026E	LT Plan 1/1/2027 12/31/2027 2027E	LT Plan 1/1/2028 12/31/2028 2028E	LT Plan 1/1/2029 12/31/2029 2029E	LT Plan 1/1/2030 12/31/2030 2030E
EBIT	2,486	2,710	2,927	3,132	3,320	3,966	4,164	4,373	4,591	4,821
Taxes	746	813	878	940	996	1,190	1,249	1,312	1,377	1,446
NOPAT	**1,741**	**1,897**	**2,049**	**2,192**	**2,324**	**2,776**	**2,915**	**3,061**	**3,214**	**3,375**
D&A	1,173	1,278	1,381	1,477	1,566	1,644	1,726	1,813	1,903	1,998
Capex	(754)	(864)	(980)	(1,101)	(1,225)	(1,351)	(1,490)	(1,643)	(1,812)	(1,998)
Change in Inventories	(281)	(332)	(322)	(304)	(279)	(138)	(253)	(266)	(279)	(293)
Change in Receivables	(382)	(263)	(255)	(241)	(221)	(195)	(205)	(215)	(226)	(237)
Change in Payables	176	208	202	191	175	87	159	167	175	184
FCF	**1,673**	**1,925**	**2,075**	**2,215**	**2,339**	**2,822**	**2,852**	**2,916**	**2,975**	**3,028**
TV										62,076
Discount Factor	0.93	0.87	0.80	0.75	0.70	0.65	0.60	0.56	0.52	0.49
DCF	**1,556**	**1,666**	**1,670**	**1,658**	**1,630**	**1,829**	**1,719**	**1,635**	**1,552**	**31,588**
% of EV	3%	4%	4%	4%	4%	4%	4%	4%	3%	68%

Source: Company information, own analysis

Exhibit 23: Derivation of the share price, based on Q320 working capital KPIs

WACC	7.5%
Terminal Growth (1.0% real growth, 1.5% inflation)	2.5%
EV	44,054
Net Debt (incl. Leases)	4,093
Pension Liabilities	267
Non Controlling Interest	258
Equity Value	39,436
Fully Diluted Shares Outstanding (m)	200
Shareprice	**196.72**

Share Price Sensitivity	WACC				
	7%	7.00%	7.50%	8.00%	8.50%
WC based on 2019 average	269	236	209	187	169
WC based on 2020 average	262	229	203	182	164
WC based on Q320	254	222	197	176	159

Source: Company information, own analysis

Exhibit 24: Derivation of the share price, based on 2020 average working capital KPIs

WACC	7.5%
Terminal Growth (1.0% real growth, 1.5% inflation)	2.5%
EV	45,291
Net Debt (incl. Leases)	4,093
Pension Liabilities	267
Non Controlling Interest	258
Equity Value	40,673
Fully Diluted Shares Outstanding (m)	200
Shareprice	**202.89**

Share Price Sensitivity	WACC				
	7%	7.00%	7.50%	8.00%	8.50%
WC based on 2019 average	269	236	209	187	169
WC based on 2020 average	262	229	203	182	164
WC based on Q320	254	222	197	176	159

Source: Company information, own analysis

Exhibit 25: Derivation of the share price, based on 2019 average working capital KPIs

WACC	7.5%
Terminal Growth (1.0% real growth, 1.5% inflation)	2.5%
EV	46,503
Net Debt (incl. Leases)	4,093
Pension Liabilities	267
Non Controlling Interest	258
Equity Value	41,885
Fully Diluted Shares Outstanding (m)	200
Shareprice	**208.94**

Share Price Sensitivity	WACC				
	7%	7.00%	7.50%	8.00%	8.50%
WC based on 2019 average	269	236	209	187	169
WC based on 2020 average	262	229	203	182	164
WC based on Q320	254	222	197	176	159

Source: Company information, own analysis

Exhibit 26: P&L based on weaker gross margin and average 2019 working capital KPIs

in€m	Actual 1/1/2019 12/31/2019 2019A	Plan 1/1/2020 12/31/2020 2020E	Plan 1/1/2021 12/31/2021 2021E	Plan 1/1/2022 12/31/2022 2022E	Plan 1/1/2023 12/31/2023 2023E	Plan 1/1/2024 12/31/2024 2024E	Plan 1/1/2025 12/31/2025 2025E	LT Plan 1/1/2026 12/31/2026 2026E	LT Plan 1/1/2027 12/31/2027 2027E	LT Plan 1/1/2028 12/31/2028 2028E	LT Plan 1/1/2029 12/31/2029 2029E	LT Plan 1/1/2030 12/31/2030 2030E
Net sales	23,640	19,858	22,836	24,892	26,883	28,765	30,490	32,015	33,616	35,297	37,061	38,914
Cost of sales	11,347	10,127	11,190	12,197	13,173	14,095	14,940	15,367	16,136	16,942	17,789	18,679
Gross profit	**12,293**	**9,730**	**11,646**	**12,695**	**13,710**	**14,670**	**15,550**	**16,648**	**17,480**	**18,354**	**19,272**	**20,236**
% Gross Margin	*52%*	*49%*	*51%*	*51%*	*51%*	*51%*	*51%*	*52%*	*52%*	*52%*	*52%*	*52%*
Royalty and commission income	154	129	149	162	175	187	199	209	219	230	241	254
Other operating income	56	47	54	59	64	68	72	76	80	84	88	92
Other operating expenses	9,843	9,330	9,591	10,454	11,291	12,081	12,806	13,286	13,951	14,648	15,380	16,150
Operating profit	**2,660**	**576**	**2,258**	**2,461**	**2,658**	**2,844**	**3,015**	**3,646**	**3,828**	**4,020**	**4,221**	**4,432**
Financial income	64	35	35	35	35	35	35	35	35	35	35	35
Financial expenses	166	177	177	177	177	177	177	177	177	177	177	177
Income before taxes	**2,558**	**434**	**2,115**	**2,319**	**2,516**	**2,702**	**2,872**	**3,503**	**3,686**	**3,877**	**4,078**	**4,289**
Income taxes	640	130	635	696	755	811	862	1,051	1,106	1,163	1,223	1,287
Net income from continuing operations	**1,918**	**304**	**1,481**	**1,623**	**1,761**	**1,891**	**2,011**	**2,452**	**2,580**	**2,714**	**2,855**	**3,002**
Gains from discontinued operations, net of tax	59	0	0	0	0	0	0	0	0	0	0	0
Net income	**1,977**	**304**	**1,481**	**1,623**	**1,761**	**1,891**	**2,011**	**2,452**	**2,580**	**2,714**	**2,855**	**3,002**

Source: Company information, own analysis

Exhibit 27: FCFF based on weaker gross margin and average 2019 working capital KPIs

	Plan 1/1/2021 12/31/2021 2021E	Plan 1/1/2022 12/31/2022 2022E	Plan 1/1/2023 12/31/2023 2023E	Plan 1/1/2024 12/31/2024 2024E	Plan 1/1/2025 12/31/2025 2025E	LT Plan 1/1/2026 12/31/2026 2026E	LT Plan 1/1/2027 12/31/2027 2027E	LT Plan 1/1/2028 12/31/2028 2028E	LT Plan 1/1/2029 12/31/2029 2029E	LT Plan 1/1/2030 12/31/2030 2030E
EBIT	2,258	2,461	2,658	2,844	3,015	3,646	3,828	4,020	4,221	4,432
Taxes	677	738	797	853	904	1,094	1,148	1,206	1,266	1,330
NOPAT	**1,581**	**1,723**	**1,861**	**1,991**	**2,110**	**2,552**	**2,680**	**2,814**	**2,954**	**3,102**
D&A	1,173	1,278	1,381	1,477	1,566	1,644	1,726	1,813	1,903	1,998
Capex	(754)	(864)	(980)	(1,101)	(1,225)	(1,351)	(1,490)	(1,643)	(1,812)	(1,998)
Change in Inventories	(357)	(339)	(328)	(310)	(285)	(144)	(259)	(271)	(285)	(299)
Change in Receivables	(382)	(263)	(255)	(241)	(221)	(195)	(205)	(215)	(226)	(237)
Change in Payables	224	213	206	195	179	90	162	170	179	188
FCF	**1,484**	**1,748**	**1,884**	**2,011**	**2,124**	**2,596**	**2,615**	**2,667**	**2,713**	**2,753**
TV										56,444
Discount Factor	0.93	0.87	0.80	0.75	0.70	0.65	0.60	0.56	0.52	0.49
DCF	**1,381**	**1,513**	**1,517**	**1,506**	**1,479**	**1,682**	**1,576**	**1,495**	**1,415**	**28,722**
% of EV	3%	4%	4%	4%	3%	4%	4%	4%	3%	68%

Source: Company information, own analysis

Exhibit 28: Derivation of share price based on weaker gross margin and average 2019 working capital KPIs

WACC	7.5%
Terminal Growth (1.0% real growth, 1.5% inflation)	2.5%
EV	42,287
Net Debt (incl. Leases)	4,093
Pension Liabilities	267
Non Controlling Interest	258
Equity Value	37,669
Fully Diluted Shares Outstanding (m)	200
Shareprice	**187.91**

Share Price Sensitivity	WACC				
	7%	7.00%	7.50%	8.00%	8.50%
WC based on 2019 average	243	212	188	168	151
WC based on 2020 average	235	205	182	162	146
WC based on Q320	227	198	175	156	141

Source: Company information, own analysis

Exhibit 29: Exemplary factoring calculation for Adidas AG

in €m		Comment
Revenue	23,640	Adidas AG 2019 Net sales
DRO	41	Adidas 2019 DRO as of End of FY 2019
Receivables sold	50%	Percentage of receivables that are sold to Factoring company
Days in a year	365	Days in a year
Receivables to sell	1,313	Receivables to sell, based on DRO, revenue and percentage sold
Blocked amount (payed to company after debtor paid the bill)	10.00%	Deducted from the nominal receivables sold, ongoing basis of DRO
Factoring Interest rate	1.50%	Interest paid for time between transfer of receivables and debtor payment
Interest on long term debt	2.00%	Assumed interest rate for long term debt that is assumed to be paid down with cash receipts
Full service fee	1.00%	Fee for full service factoring, e.g. dunning cost
Del credere fee	2.00%	Fee for taking the risk of default of the debtor
Tax rate	30.00%	Applied on the changes in eanrings before tax for the adjusted Net Income
Assumed annual cost of dunning for Adidas	30.00	Assumed amount of dunning cost for Adidas, outsourced with the sactoring
Default rate of receivables	0.50%	Assumed default rate of receivables, will be covered from factroing company
Cost calculation		
Interest payments	17.72	Interest paid on cash provided by factoring firm (receivables sold - blocked amount) * interest rate
Full service fee	13.13	Service fee in % * receivables sold
Factoring fee	26.25	Factoring fee in % * receivables sold
Annual cost	57.09	
Savings calculation		
Interest saved on debt	23.63	Long term debt repayment in the amount of receivables sold * the blocked amount
Saving of default (receivables sold * default rate)	6.56	Nominal amount of receivables sold * the default rate
Saved dunning cost (€30m *0.5)	15.00	Dunning cost for total receivables * % of receivables sold (assuming dunning cost to be linear to amount)
Annual savings	45.19	
Advantage of Factoring	-11.91	Difference of implied savings and cost of factoring
Impact on ROCE (FY 2019)		
in €m		
Debt Repayment / Cash reserve: (1/0)	1	Select. If cash reserve is activated, there will be no downpayment of debt. This will result in unchanged capital employed, as there is effectively an asset swap
Reported Capital Eomployed (FY 2019)	11,925	Capital employed as of end FY 2019
EBIT	2,660	EBIT FY 2019
Net Income	1,977	Net Income FY 2019
ROCE (based on EBIT)	22.31%	EBIT / Capital Employed
ROCE (based on Net Income)	16.58%	Net Income / Capital Employed
Adjusted Capital employed (with 90% of sold receivables cashed in and long-term debt repayment)	10,744	Capital employed is reduced by the paid in cash from the factoring firm, as this example assumes a long term debt repayment funded with cash proceeds
Adjusted EBIT after factoring	2,642.19	Adjusted for the fees and the saved items, excluding any interest related cost and savings
Adjusted Net Income after factoring	1,965.79	Net Income Adjusted for the savings/losses of factoring considering assumed corporate tax rate
Adjusted ROCE after Factoring (based on adj. EBIT)	24.59%	Adjusted EBIT / Adjusted Capital Employed
Adjusted ROCE after Factoring (based on adj. Net Income)	18.30%	Adjusted Net Income / Adjusted Capital Employed

Source: Company information, own assumptions, own analysis

Exhibit 30: FCFF with factoring improved receivables

	Plan 1/1/2021 12/31/2021 2021E	Plan 1/1/2022 12/31/2022 2022E	Plan 1/1/2023 12/31/2023 2023E	Plan 1/1/2024 12/31/2024 2024E	Plan 1/1/2025 12/31/2025 2025E	LT Plan 1/1/2026 12/31/2026 2026E	LT Plan 1/1/2027 12/31/2027 2027E	LT Plan 1/1/2028 12/31/2028 2028E	LT Plan 1/1/2029 12/31/2029 2029E	LT Plan 1/1/2030 12/31/2030 2030E
EBIT	2,486	2,710	2,927	3,132	3,320	3,966	4,164	4,373	4,591	4,821
Taxes	746	813	878	940	996	1,190	1,249	1,312	1,377	1,446
NOPAT	**1,741**	**1,897**	**2,049**	**2,192**	**2,324**	**2,776**	**2,915**	**3,061**	**3,214**	**3,375**
D&A	1,173	1,278	1,381	1,477	1,566	1,644	1,726	1,813	1,903	1,998
Capex	(754)	(864)	(980)	(1,101)	(1,225)	(1,351)	(1,490)	(1,643)	(1,812)	(1,998)
Change in Inventories	(281)	(332)	(322)	(304)	(279)	(138)	(253)	(266)	(279)	(293)
Change in Receivables	(191)	(132)	(128)	(121)	(111)	(98)	(103)	(108)	(113)	(119)
Change in Payables	176	208	202	191	175	87	159	167	175	184
FCF	**1,864**	**2,057**	**2,203**	**2,335**	**2,450**	**2,920**	**2,954**	**3,024**	**3,088**	**3,147**
TV										64,509
Discount Factor	0.93	0.87	0.80	0.75	0.70	0.65	0.60	0.56	0.52	0.49
DCF	**1,734**	**1,780**	**1,773**	**1,749**	**1,707**	**1,892**	**1,781**	**1,695**	**1,611**	**32,826**
% of EV	4%	4%	4%	4%	4%	4%	4%	3%	3%	68%

Source: Company information, own analysis

Exhibit 31: Share price with factoring improved receivables

WACC	7.5%
Terminal Growth (1.0% real growth, 1.5% inflation)	2.5%
EV	48,546
Net Debt (incl. Leases)	4,093
Pension Liabilities	267
Non Controlling Interest	258
Equity Value	43,928
Fully Diluted Shares Outstanding (m)	200
Shareprice	**219.13**

Share Price Sensitivity	WACC				
	7%	7.00%	7.50%	8.00%	8.50%
WC based on 2019 average	282	247	219	196	177
WC based on 2020 average	273	239	212	190	171
WC based on Q320	267	234	207	185	167

Source: Company information, own analysis

Exhibit 32: Adidas AG cash flow related items

€ in millions	**FY 2016**	**FY 2017**	**FY 2018**	**FY2019**
Income before taxes	1,444	2,023	2,378	2,558
Depreciation, amortizaion and impairment losses	397	484	490	1,214
Reversals of impairment losses	(2)	(1)	(3)	(8)
Unrealized foreign exchange gains, net	(7)	(75)	(10)	(1)
Interest income	(21)	(25)	(24)	(50)
Interest expense	70	62	42	160
Losses / (gains) on sale of PPE and intangibles, net:	(21)	17	9	11
Other non- cash effects from operating activities	-	3	17	(12)
Payment for external funding pension obligations (CTA)	-	46	(90)	(105)
Operating profit before working capital changes	**1,860**	**2,534**	**2,809**	**3,767**
Increase in receivablesand other assets	(411)	(477)	(209)	(694)
(Increase)/decrease in inventories	(621)	(216)	180	(505)
Increase in accounts payable and other liabilities	1,006	422	741	951
Cash generated from operations before taxes	**1,834**	**2,263**	**3,521**	**3,519**
Income taxes paid	(485)	(621)	(815)	(692)
Net cash generated from operating activities - continuing operations	**1,349**	**1,642**	**2,706**	**2,827**
Net cash used in operating activities - discontinued operations	(1)	6	(20)	(9)
Net cash generated from operating activities	**1,348**	**1,648**	**2,686**	**2,818**

adidas AG Payout

€ in millions	**FY 2016**	**FY 2017**	**FY 2018**	**FY2019**
Share Buy Back	(218)	(100)	(937)	(1,022)
Dividends (including NCI)	(322)	(406)	(530)	(666)
Total	**(540)**	**(506)**	**(1,467)**	**(1,688)**

Source: Company information

4 References

Adidas AG (2020): Press Release, https://www.adidas-group.com/en/media/news-archive/press-releases/2020/adidas-replaces-kfw-syndicated-loan-facility/, last visit: 31-12-2020

Adidas AG (2020): Quarterly Results Q1 2020

Adidas AG (2020): Quarterly Results Q2 2020

Adidas AG (2020): Quarterly Results Q3 2020

Adidas AG (2020): Annual Report 2019

Adidas AG (2019): Annual Report 2018

Adidas AG (2018): Annual Report 2017

Adidas AG (2017): Annual Report 2016

Baños-Caballero, Sonia; García-Teruel, Pedro J.; Martínez-Solano, Pedro (2010): Working capital management in SMEs, *Accounting and Finance*, Vol. 50, Issue 3, pp. 511-527.

Deloof, Marc (2003): Does Working Capital Management Affect Profitability of Belgian Firms?, *Journal of Business Finance and Accounting*, Vol. 30, Issue 3-4, pp. 573-588.

Ding, Sai; Guariglia, Alessandra; Knight, John (2013): Investment and Financing Constraints in China: Does Working Capital Management Make a Difference?, *Journal of Banking & Finance*, Vol. 37, Issue 5, pp. 1490-1507.

International Accounting Standards Board (2020): *IFRS 16, Leases*. *IFRS 3, Business combinations.*

Kieschnick, Robert; LaPlante, Mark; Moussawi, Rabhi (2011): Working Capital Management and Shareholder Wealth, *Working Paper*.

Kim, Chang-Soo.; Mauer, David C.; Sherman, Ann E. (1998): The determinants of corporate liquidity: theory and evidence, *Journal of Financial and Quantitative Analysis*, Vol. 33, pp. 335–359.

McKinsey & Company, Inc. (2020): The CFO's role in helping companies navigate the corona virus crisis, https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-cfos-role-in-helping-companies-navigate-the-coronavirus-crisis#, Last visit: December 31, 2020.

Modigliani, Franco; Miller, Merton H. (1958): The Cost of Capital, Corporation Finance and the Theory of Investment, *The American Economic Review*, Vol. 48, No. 3., pp. 261-297.

Smith, K. V. (1973): State of the Art of Working Capital Management, *Financial Management*, Autumn, pp.50-55

Thomson Reuters (n.d.): Thomson Reuters Eikon platform, https://eikon.thomsonreuters.com/index.html

Under Armour (2020): Annual Report 2019

Wharton School (1993): Wharton research data services, https://wrds-web.wharton.upenn.edu/wrds/.